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## Presidential Address

delivered by

Professor William Bateson, M.A., F.R.S.,

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### Part II.

At Melbourne I spoke of the new knowledge of the properties of living things which Mendelian analysis has brought us. I indicated how these discoveries are affecting our outlook on that old problem of natural history, the origin and nature of Species, and the chief conclusion I drew was the negative one, that, though we must hold to our faith in the Evolution of Species, there is little evidence as to how it has come about, and no clear proof that the process is continuing in any considerable degree at the present time. The thought uppermost in our minds is that knowledge of the nature of life is altogether too slender to warrant speculation on these fundamental subjects. Did we presume to offer such speculations they would have no more value than those which alchemists might have made as to the nature of the elements. But though in regard to these theoretical aspects we must confess to such deep ignorance, enough has been learnt of the general course of heredity within a single species to justify many practical conclusions which cannot in the main be shaken. I propose now to develop some of these conclusions in regard to our own species, Man.

In my former Address I mentioned the condition of certain animals and plants which are what we call "polymorphic." Their populations consist of individuals of many types, though they breed freely together with perfect fertility. In cases of this kind which have been sufficiently investigated it has been found that these distinctions—sometimes very great and affecting most diverse features of organisation—are due to the presence or absence of elements, or factors as we call them, which are treated in heredity as separate entities. These factors and their combinations produce the characteristics which we perceive. No individual can acquire a particular characteristic unless the requisite factors entered into the composition of that individual at fertilisation, being received either from the father or from the mother or from both, and consequently no individual can pass on to his offspring positive characters which he does not himself possess. Rules of this kind have already been traced in operation in the human species; and though I admit that an assumption of some magnitude is involved when we extend the application of the same system to human characteristics in general, yet the assumption is one which I believe we are fully justified in making. With little hesitation we can now declare that the potentialities and aptitudes, physical as well as

mental, sex, colours, powers of work or invention, liability to diseases, possible duration of life, and the other features by which the members of a mixed population differ from each other, are determined from the moment of fertilisation; and by all that we know of heredity in the forms of life with which we can experiment we are compelled to believe that these qualities are in the main distributed on a factorial system. By changes in the outward conditions of life the expression of some of these powers and features may be excited or restrained. For the development of some an external opportunity is needed, and if that be withheld the character is never seen, any more than if the body be starved can the full height be attained; but such influences are superficial and do not alter the genetic constitution.

The factors which the individual receives from his parents and no others are those which he can transmit to his offspring; and if a factor was received from one parent only, not more than half the offspring, on an average, will inherit it. What is it that so long prevented mankind from discovering such simple facts? Primarily the circumstance that as man must have two parents it is not possible quite easily to detect the contributions of each. The individual body is a double structure, whereas the germ-cells are single. Two germ-cells unite to produce each individual body, and the ingredients they respectively contribute interact in ways that leave the ultimate product a medley in which it is difficult to identify the several ingredients. When, however, their effects are conspicuous the task is by no means impossible. In part also even physiologists have been blinded by the survival of ancient and obscurantist conceptions of the nature of man by which they were discouraged from the application of any rigorous analysis. Medical literature still abounds with traces of these archaisms, and, indeed, it is only quite recently that prominent horse-breeders have come to see that the dam matters as much as the sire. For them, though vast pecuniary considerations were involved, the old "homunculus" theory was good enough. We were amazed at the notions of genetic physiology which Professor Baldwin Spencer encountered in his wonderful researches among the natives of Central Australia; but in truth, if we reflect that these problems have engaged the attention of civilised man for ages, the fact that he, with all his powers of recording and deduction, failed to discover any part of the Mendelian system is almost as amazing. The popular notion that any parents can have any kind of children within the racial limits is contrary to all experience, yet we have gravely entertained such ideas. As I have said elsewhere, the truth might have been found out at any period in the world's history if only pedigrees had been drawn the right way up. If, instead of exhibiting the successive pairs of progenitors who have contributed to the making of an ultimate individual, some one had had the idea of

setting out the posterity of a single ancestor who possessed a marked feature such as the Habsburg lip, and showing the transmission of this feature along some of the descending branches and the permanent loss of the feature in collaterals, the essential truth that heredity can be expressed in terms of presence and absence must have at once become apparent. For the descendant is not, as he appears in the conventional pedigree, a sort of pool into which each tributary ancestral stream has poured something, but rather a conglomerate of ingredient-characters taken from his progenitors in such a way that some ingredients are represented and other are omitted.

Let me not, however, give the impression that the unravelling of such descents is easy. Even with fairly full details, which in the case of man are rarely to be had, many complications occur, often preventing us from obtaining more than a rough general indication of the system of descent. The nature of these complications we partly understand from our experience of animals and plants which are amenable to breeding under careful restrictions, and we know that they are mostly referable to various effects of interaction between factors by which the presence of some is masked.

Necessarily the clearest evidence of regularity in the inheritance of human characteristics has been obtained in regard to the descent of marked abnormalities of structure and congenital diseases. Of the descent of ordinary distinctions such as are met with in the normal healthy population we know little for certain. Hurst's evidence, that two parents both with light-coloured eyes—in the strict sense, meaning that no pigment is present on the front of the iris—do not have dark-eyed children, still stands almost alone in this respect. With regard to the inheritance of other colour-characteristics some advance has been made, but everything points to the inference that the genetics of colour and many other features in man will prove exceptionally complex. There are, however, plenty of indications of system comparable with those which we trace in various animals and plants, and we are assured that to extend and clarify such evidence is only a matter of careful analysis. For the present, in asserting almost any general rules for human descent, we do right to make large reservations for possible exceptions. It is tantalising to have to wait, but of the ultimate result there can be no doubt.

I spoke of complications. Two of these are worth illustrating here, for probably both of them play a great part in human genetics. It was discovered by Nilsson-Ehle, in the course of experiment with certain wheats, that several factors having the same power may co-exist in the same individual. These cumulative factors do not necessarily produce a cumulative effect, for any one of them may suffice to give the full result. Just as the pure-bred tall pea with its two factors for tallness is no taller than the cross-bred with a single factor, so these wheats with their three pairs of factors for red colour are no redder than the ordinary reds of the same family. Similar observations have been made by East and others. In some cases, as in the *Primulas* studied

by Gregory, the effect is cumulative. These results have been used with plausibility by Davenport and the American workers to elucidate the curious case of the mulatto. If the descent of colour in the cross between the negro and the white man followed the simplest rule, the offspring of two first-cross mulattos would be, on an average, one black: two mulattos: one white: but this is notoriously not so. Evidence of some segregation is fairly clear, and the deficiency of real whites may perhaps be accounted for on the hypothesis of cumulative factors, though by the nature of the case strict proof is not to be had. But at present I own to a preference for regarding such examples as instances of imperfect segregation. The series of germ-cells produced by the cross-bred consists of some with no black, some with full black, and others with intermediate quantities of black. No statistical tests of the condition of the gametes in such cases exist, and it is likely that by choosing suitable crosses all sorts of conditions may be found, ranging from the simplest case of total segregation, in which there are only two forms of gametes, up to those in which there are all intermediates in various proportions. This at least is what general experience of hybrid products leads me to anticipate. Segregation is somehow effected by the rhythms of cell-division, if such an expression may be permitted. In some cases the whole factor is so easily separated that it is swept out at once; in others it is so intermixed that gametes of all degrees of purity may result. That is admittedly a crude metaphor, but as yet we cannot substitute a better. Be all this as it may, there are many signs that in human heredity phenomena of this kind are common, whether they indicate a multiplicity of cumulative factors or imperfections in segregation. Such phenomena, however, in no way detract from the essential truths that segregation occurs, and that the organism cannot pass on a factor which it has not itself received.

In human heredity we have found some examples, and I believe that we shall find many more, in which the descent of factors is limited by sex. The classical instances are those of colour-blindness and hæmophilia. Both these conditions occur with much greater frequency in males than in females. Of colour-blindness at least we know that the sons of the colour-blind man do not inherit it (unless the mother is a transmitter) and do not transmit it to their children of either sex. Some, probably all, of the daughters of the colour-blind father inherit the character, and though not themselves colour-blind, they transmit it to some (probably, on an average, half) of their offspring of both sexes. For since these normal-sighted women have only received the colour-blindness from one side of their parentage, only half their offspring, on an average, can inherit it. The sons who inherit the colour-blindness will be colour-blind, and the inheriting daughters become themselves again transmitters. Males with normal colour-vision, whatever their own parentage, do not have colour-blind descendants, unless they marry transmitting women. There are points still doubtful in the interpretation, but the critical fact is clear, that the germ-cells of the colour-blind man are of two kinds: (i) those which do not carry on the af-

fection and are destined to take part in the formation of sons; and (ii) those which do carry on the colour-blindness and are destined to form daughters. There is evidence that the ova also are similarly predestined to form one or other of the sexes, but to discuss the whole question of sex-determination is beyond my present scope. The descent of these sex-limited affections nevertheless calls for mention here, because it is an admirable illustration of factorial predestination. It moreover exemplifies that parental polarity of the zygote to which I alluded in my first Address, a phenomenon which we suspect to be at the bottom of various anomalies of heredity, and suggests that there may be truth in the popular notion that in some respects sons resemble their mothers and daughters their fathers.

As to the descent of hereditary diseases and malformations, however, we have abundant data for deciding that many are transmitted as dominants and a few as recessives. The most remarkable collection of these data is to be found in family histories of diseases of the eye. Neurology and dermatology have also contributed many very instructive pedigrees. In great measure the ophthalmological material was collected by Edward Nettleship, for whose death we so lately grieved. After retiring from practice as an oculist he devoted several years to this laborious task. He was not content with hearsay evidence, but travelled incessantly, personally examining all accessible members of the families concerned, working in such a way that his pedigrees are models of orderly observation and recording. His zeal stimulated many younger men to take part in the work, and it will now go on, with the result that the systems of descent of all the common hereditary diseases of the eye will soon be known with approximate accuracy.

Give a little imagination to considering the chief deduction from this work. Technical details apart, and granting that we cannot wholly interpret the numerical results, sometimes noticeably more and sometimes fewer descendants of these patients being affected than Mendelian formulæ would indicate, the expectation is that in the case of many diseases of the eye a large proportion of the children, grandchildren, and remoter descendants of the patients will be affected with the disease. Sometimes it is only defective sight that is transmitted; in other cases it is blindness, either from birth or coming on at some later age. The most striking example, perhaps is that of a form of night-blindness still prevalent in a district near Montpellier, which has affected at least 130 persons, all descending from a single affected individual who came into the county in the seventeenth century. The transmission is in every case through an affected parent, and no normal has been known to pass on the condition. Such an example well serves to illustrate the fixity of the rules of descent. Similar instances might be recited

relating to a great variety of other conditions, some trivial, others grave.

At various times it has been declared that men are born equal, and that the inequality is brought about by unequal opportunities. Acquaintance with the pedigrees of disease soon shows the fatuity of such fancies. The same conclusion, we may be sure, would result from the true representation of the descent of any human faculty. Never since Galton's publications can the matter have been in any doubt. At the time he began to study family histories even the broad significance of heredity was frequently denied, and resemblances to parents or ancestors were looked on as interesting curiosities. Inveighing against hereditary political institutions, Tom Paine remarks that the idea is as absurd as that of an "hereditary wise man," or an "hereditary mathematician," and to this day I suppose many people are not aware that he is saying anything more than commonly foolish. We, on the contrary, would feel it something of a puzzle if two parents, both mathematically gifted, had any children not mathematicians. Galton first demonstrated the overwhelming importance of these considerations, and had he not been misled, partly by the theory of pangenesis, but more by his mathematical instincts and training, which prompted him to apply statistical treatment rather than qualitative analysis, he might, not improbably, have discovered the essential facts of Mendelism.

It happens rarely that science has anything to offer to the common stock of ideas at once so comprehensive and so simple that the courses of our thoughts are changed. Contributions to the material progress of mankind are comparatively frequent. They result at once in application. Transit is quickened; communication is made easier; the food-supply is increased and population multiplied. By direct application to the breeding of animals and plants such results must even flow from Mendel's work. But I imagine the greatest practical change likely to ensue from modern genetic discovery will be a quickening of interest in the true nature of man and in the biology of races. I have spoken cautiously as to the evidence for the operation of any simple Mendelian system in the descent of human faculty; yet the certainty that systems which differ from the simpler schemes only in degree of complexity are at work in the distribution of characters among the human population cannot fail to influence our conceptions of life and of ethics, leading perhaps ultimately to modification of social usage. That change cannot but be in the main one of simplification. The eighteenth century made great pretence of a return to nature, but it did not occur to those philosophers first to inquire what nature is; and perhaps not even the patristic writings contain fantasies much further from physiological truth than those which the rationalists of the "Encyclopædia" adopted as the basis of their social schemes. For men are so far from being born equal or similar that to the naturalist they stand as the very type of a polymorphic species. Even most of our local races consist of many distinct strains and individual types. From the population of any ordinary English

† The first human descent proved to follow Mendelian rules was that of a serious malformation of the hand studied by Farabee in America. Drinkwater subsequently worked out pedigrees for the same malformation in England. After many attempts, he now tells me that he has succeeded in proving that the American family and one of his own had an abnormal ancestor in common, five generations ago.



town as many distinct human breeds could in a few generations be isolated as there are now breeds of dogs, and indeed such a population in its present state is much what the dogs of Europe would be in ten years' time but for the interference of the fanciers. Even as at present constituted, owing to the isolating effects of instinct, fashion, occupation, and social class, many incipient strains already exist.

In one respect civilised man differs from all other species of animal or plant in that, having prodigious and ever-increasing power over nature, he invokes these powers for the preservation and maintenance of many of the inferior and all the defective members of his species. The inferior freely multiply, and the defective, if their defects be not so grave as to lead to their detention in prisons or asylums, multiply also without restraint. Heredity being strict in its action, the consequences are in civilised countries much what they would be in the kennels of the dog-breeder who continued to preserve all his puppies, good and bad; the proportion of defectives increases. The increase is so considerable that outside every great city there is a smaller town inhabited by defectives and those who wait on them. Round London we have a ring of such towns with some 30,000 inhabitants, of whom about 28,000 are defective, largely, though of course, by no means entirely, bred from previous generations of defectives. Now, it is not for us to consider practical measures. As men of science we observe natural events and deduce conclusions from them. I may perhaps be allowed to say that the remedies proposed in America, in so far as they aim at the eugenic regulation of marriage on a comprehensive scale, strike me as devised without regard to the needs either of individuals or of a modern State. Undoubtedly if they decide to breed their population of one uniform puritan grey, they can do it in a few generations; but I doubt if timid respectability will make a nation happy, and I am sure that qualities of a different sort are needed if it is to compete with more vigorous and more varied communities. Everyone must have a preliminary sympathy with the aims of eugenists both abroad and at home. Their efforts at the least are doing something to discover and spread truth as to the physiological structure of society. The spirit of such organisations, however, almost of necessity suffers from a bias towards the accepted and the ordinary, and if they had power it would go hard with many ingredients of society that could be ill-spared. I notice an ominous passage in which even Galton, the founder of eugenics, feeling perhaps some twinge of his Quaker ancestry, remarks that "as the Bohemianism in the nature of our race is destined to perish, the sooner it goes, the happier for mankind." It is not the eugenists who will give us what Plato has called divine releases from the common ways. If some fancier with the catholicity of Shakespeare would take us in hand, well and good; but I would not trust even Shakespeares meeting as a committee. Let us remember that Beethoven's father was an habitual drunkard and that his mother died of consumption. From the genealogy of the patriarchs also we learn—what may very well be the truth—

that the fathers of such as dwell in tents, and of all such as handle the harp or organ, and the instructor of every artificer in brass and iron—the founders, that is to say, of the arts and the sciences—came in direct descent from Cain, and not in the posterity of the irreproachable Seth, who is to us, as he probably was also in the narrow circle of his own contemporaries, what naturalists call a "nomen nudum."

Genetic research will make it possible for a nation to elect by what sort of beings it will be represented not very many generations hence, much as a farmer can decide whether his byres shall be full of short-horns or Herefords. It will be very surprising indeed if some nation does not make trial of this new power. They may make awful mistakes, but I think they will try.

Whether we like or not, extraordinary and far-reaching changes in public opinion are coming to pass. Man is just beginning to know himself for what he is—a rather long-lived animal, with great powers of enjoyment if he does not deliberately forgo them. Hitherto superstition and mythical ideas of sin have predominantly controlled these powers. Mysticism will not die out: for those strange fancies knowledge is no cure; but their forms may change, and mysticism as a force for the suppression of joy is happily losing its hold on the modern world. As in the decay of earlier religions Ushabti dolls were substituted for human victims, so telepathy, necromancy, and other harmless toys take the place of eschatology and the inculcation of a ferocious moral code. Among the civilised races of Europe we are witnessing an emancipation from traditional control in thought, in art, and in conduct which is likely to have prolonged and wonderful influences. Returning to freer or, if you will, simpler conceptions of life and death, the coming generations are determined to get more out of this world than their forefathers did. Is it then to be supposed that when science puts into their hand means for the alleviation of suffering immeasurable, and for making this world a happier place, that they will demur to using those powers. The intenser struggle between communities is only now beginning, and with the approaching exhaustion of that capital of energy stored in the earth before man began it must soon become still more fierce. In England some of our great-grandchildren will see the end of the easily accessible coal, and, failing some miraculous discovery of available energy, a wholesale reduction in population. There are races who have shown themselves able at a word to throw off all tradition and take into their service every power that science has yet offered them. Can we expect that they, when they see how to rid themselves of the ever-increasing weight of a defective population, will hesitate? The time cannot be far distant when both individuals and communities will begin to think in terms of biological fact, and it behoves those who lead scientific thought carefully to consider whither action should lead. At present I ask you merely to observe the facts. The powers of science to preserve the defective are now enormous. Every year these powers increase. This course of action must reach a limit. To the deliberate intervention of civilisa-



ion for the preservation of inferior strains there must sooner or later come an end, and before long nations will realise the responsibility they have assumed in multiplying these "cankers of a calm world and a long peace."

The definitely feeble-minded we may with propriety restrain, as we are beginning to do even in England, and we may safely prevent unions in which both parties are defective, for the evidence shows that as a rule such marriages, though often prolific, commonly produce no normal children at all. The union of such social vermin we should no more permit than we would allow parasites to breed on our own bodies. Further than that in restraint of marriage we ought not to go, at least not yet. Something too may be done by a reform of medical ethics. Medical students are taught that it is their duty to prolong life at whatever cost in suffering. This may have been right when diagnosis was uncertain and interference usually of small effect; but deliberately to interfere now for the preservation of an infant so gravely diseased that it can never be happy or come to any good is very like wanton cruelty. In private few men defend such interference. Most who have seen these cases lingering on agree that the system is deplorable, but ask where can any line be drawn. The biologist would reply that in all ages such decisions have been made by civilised communities with fair success both in regard to crime and in the closely analogous case of lunacy. The real reason why these things are done is because the world collectively cherishes occult views of the nature of life, because the facts are realised by few, and because between the legal mind—to which society has become accustomed to defer—and the seeing eye, there is such physiological antithesis that hardly can they be combined in the same body. So soon as scientific knowledge becomes common property, views more reasonable, and, I may add, more humane, are likely to prevail.

To all these great biological problems that modern society must sooner or later face there are many aspects besides the obvious ones. Infant mortality we are asked to lament without the slightest thought of what the world would be like if the majority of these infants were to survive. The decline in the birth-rate in countries already over-populated is not deplored, and we are told that a nation in which population is not rapidly increasing must be in a decline. The slightest acquaintance with biology, or even school-boy natural history, shows that this inference may be entirely wrong, and that before such a question can be decided in one way or the other, hosts of considerations must be taken into account. In normal stable conditions population is stationary. The laity never appreciates, what is so clear to a biologist, that the last century and a quarter, corresponding with the great rise in population, has been an altogether exceptional period. To our species this period has been what its early years in Australia were to the rabbit. The exploitation of energy-capital of the earth in coal, development of the new countries, and the consequent pouring of food into Europe, the application of antiseptics, these are the things that have enabled the

human population to increase. I do not doubt that if population were more evenly spread over the earth it might increase very much more; but the essential fact is that under any stable conditions a limit must be reached. A pair of wrens will bring off a dozen young every year, but each year you will find the same number of pairs in your garden. In England the limit beyond which under present conditions of distribution increase of population is a source of suffering rather than of happiness has been reached already. Younger communities living in territories largely vacant are very probably right in desiring and encouraging more population. Increase may, for some temporary reason, be essential to their prosperity. But those who live, as I do, among thousands of creatures in a state of semi-starvation will realise that too few is better than too many, and will acknowledge the wisdom of Ecclesiasticus, who said "Desire not a multitude of unprofitable children."

But at least it is often urged that the decline in the birth-rate of the intelligent and successful sections of the population—I am speaking of the older communities—is to be regretted. Even this cannot be granted without qualification. As the biologist knows, differentiation is indispensable to progress. If population were homogeneous civilisation would stop. In every army the officers must be comparatively few. Consequently, if the upper strata of the community produce more children than will recruit their numbers some must fall into the lower strata and increase the pressure there. Statisticians tell us that an average of four children under present conditions is sufficient to keep the number constant, and as the expectation of life is steadily improving we may perhaps contemplate some diminution of that number without alarm.

In the study of history biological treatment is only beginning to be applied. For us the causes of the success and failure of races are physiological events, and the progress of man has depended upon a chain of these events, like those which have resulted in the "improvement" of the domesticated animals and plants. It is obvious, for example, that had the cereals never been domesticated cities could scarcely have existed. But we may go further, and say that in temperate countries of the Old World (having neither rice nor maize) populations concentrated in large cities have been made possible by the appearance of a "thrashable" wheat. The ears of the wild wheats break easily to pieces, and the grain remains in the thick husk. Such wheat can be used for food, but not readily. Ages before written history began, in some unknown place plants, or more likely a plant, of wheat lost the dominant factor to which this brittleness is due, and the recessive, thrashable wheat resulted. Some man noticed this wonderful novelty, and it has been disseminated over the earth. The original variation may well have occurred once only, in a single germ-cell.

So must it have been with Man. Translated into terms of factors, how has that progress in control of nature which we call civilisation been achieved? By the sporadic appearance of variations, mostly,

perhaps all, consisting in a loss of elements, which inhibit the free working of the mind. The members of civilised communities, when they think about such things at all, imagine the process a gradual one, and that they themselves are active agents in it. Few, however, contribute anything but their labour; and except in so far as they have freedom to adopt and imitate, their physiological composition is that of an earlier order of things. Annul the work of a few hundreds—I might almost say scores—of men, and on what plane of civilisation should we be? We should not have advanced beyond the mediæval stage without printing, chemistry, steam, electricity, or surgery worthy of the name. These things are the contributions of a few excessively rare minds. Galton reckoned those to whom the term "illustrious" might be applied as one in a million, but in that number he is, of course, reckoning men famous in ways which add nothing to universal progress. To improve by subordinate invention, to discover details missed, even to apply knowledge never before applied, all these things need genius in some degree, and are far beyond the powers of the average man of our race; but the true pioneer, the man whose penetration creates a new world, as did that of Newton and of Pasteur, is inconceivably rare. But for a few thousands of such men, we should perhaps be in the Palæolithic era, knowing neither metals, writing, arithmetic, weaving, nor pottery.

In the history of Art the same is true, but with this remarkable difference, that not only are gifts of artistic creation very rare, but even the faculty of artistic enjoyment, not to speak of higher powers of appreciation, is not attained without variation from the common type. I am speaking, of course, of the non-Semitic races of modern Europe, among whom the power whether of making or enjoying works of art is confined to an insignificant number of individuals. Appreciation can in some degree be simulated, but in our population there is no widespread physiological appetite for such things. When detached from the centres where they are made by others most of us pass our time in great contentment, making nothing that is beautiful, and quite unconscious of any deprivation. Musical taste is the most notable exception, for in certain races—for example, the Welsh and some of the Germans—it is almost universal. Otherwise artistic faculty is still sporadic in its occurrence. The case of music well illustrates the application of genetic analysis to human faculty. No one disputes that musical ability is congenital. In its fuller manifestation it demands sense of rhythm, ear, and special nervous and muscular powers. Each of these is separable and doubtless genetically distinct. Each is the consequence of a special departure from the common type. Teaching and external influences are powerless to evoke these faculties, though their development may be assisted. The only conceivable way in which the people of England, for example, could become a musical nation would be by the gradual rise in the proportional numbers of a musical strain or strains until the present type became so rare as to be negligible. It by no means follows that in any other respect the resulting population would be distin-

guishable from the present one. Difficulties of this kind beset the efforts of anthropologists to trace racial origins. It must continually be remembered that most characters are independently transmitted and capable of such recombination. In the light of Mendelian knowledge the discussion whether a race is pure or mixed loses almost all significance. A race is pure if it breeds pure and not otherwise. Historically we may know that a race like our own was, as a matter of fact, of mixed origin. But a character may have been introduced by a single individual, though subsequently it becomes common to the race. This is merely a variant on the familiar paradox that in the course of time if registration is accurate we shall all have the same surname. In the case of music, for instance, the gift, originally perhaps from a Welsh source, might permeate the nation, and the question would then arise whether the nation, so changed, was the English nation or not.

Such a problem is raised in a striking form by the population of modern Greece, and especially of Athens. The racial characteristics of the Athenian of the fifth century B.C. are vividly described by Galton in "Hereditary Genius." The fact that in that period a population, numbering many thousands, should have existed, capable of following the great plays at a first hearing, revelling in subtleties of speech, and thrilling with passionate delight in beautiful things, is physiologically a most singular phenomenon. On the basis of the number of illustrious men produced by that age Galton estimated the average intelligence as at least two of his degrees above our own, differing from us as much as we do from the negro. A few generations later the display was over. The origin of that constellation of human genius which then blazed out is as yet beyond all biological analysis, but I think we are not altogether without suspicion of the sequence of the biological events. If I visit a poultry-breeder who has a fine stock of thoroughbred game fowls breeding true, and ten years later—that is to say ten fowl-generations later—I go again and find scarcely a recognisable game-fowl on the place, I know exactly what has happened: One or two birds of some other or no breed must have strayed in and their progeny been left undestroyed. Now in Athens we have many indications that up to the beginning of the fifth century so long as the phratries and gentes were maintained in their integrity there was rather close endogamy, a condition giving the best chance of producing a homogeneous population. There was no lack of material from which intelligence and artistic power might be derived. Sporadically these qualities existed throughout the ancient Greek world from the dawn of history, and, for example, the vase-painters, the makers of the Tanagra figurines, and the gem-cutters were presumably pursuing family crafts, much as are the actor-families\* of England or the professional families of Germany at the present day. How the intellectual strains should have acquired predominance we cannot tell, but in an in-breeding community homogeneity at least is not surprising. At the end of the sixth

\* For tables of these families, see the Supplement to "Who's Who in the Theatre."

century came the "reforms" of Cleisthenes (507 B.C.), which sanctioned foreign marriages and admitted to citizenship a number not only of resident aliens but also of manumitted slaves. As Aristotle says, Cleisthenes legislated with the deliberate purpose of breaking up the phratries and gentes, in order that the various sections of the population might be mixed up as much as possible, and the old tribal associations abolished. The "reform" was probably a recognition and extension of a process already begun; but is it too much to suppose that we have here the effective beginning of a series of genetic changes which in a few generations so greatly altered the character of the people? Under Pericles the old world was restored (451 B.C.), but losses in the great wars led to further laxity in practice, and though at the end of the fifth century the strict rule was re-enacted that a citizen must be of citizen-birth on both sides, the population by that time may well have become largely mongrelised.

Let me not be construed as arguing that mixture of races is an evil: far from it. A population like our own, indeed, owes much of its strength to the extreme diversity of its components, for they contribute a corresponding abundance of aptitudes. Everything turns on the nature of the ingredients brought in, and I am concerned solely with the observation that these genetic disturbances lead ultimately to great and usually unforeseen changes in the nature of the population.

Some experiments of this kind are going on at the present time, in the United States, for example, on a very large scale. Our grandchildren may live to see the characteristics of the American population entirely altered by the vast invasion of Italian and other South European elements. We may expect that the Eastern States, and especially New England, whose people still exhibit the fine Puritan qualities with their appropriate limitations, absorbing little of the alien elements, will before long be in feelings and aptitudes very notably differentiated from the rest. In Japan, also, with the abolition of the feudal system and the rise of commercialism, a change in population has begun which may be worthy of the attention of naturalists in that country. Till the revolution the Samurai almost always married within their own class, with the result, as I am informed, that the caste had fairly recognisable features. The changes of 1868 and the consequent impoverishment of the Samurai have brought about a beginning of disintegration which may not improbably have perceptible effects.

How many genetic vicissitudes has our own peerage undergone! Into the hard-fighting stock of mediæval and Plantagenet times have successively been crossed the cunning shrewdness of Tudor statesmen and courtiers, the numerous contributions of Charles II. and his concubines, reinforcing peculiar and persistent attributes which popular imagination especially regards as the characteristic of peers, ultimately the heroes of finance and industrialism. Definitely intellectual elements have been sporadically added, with rare exceptions, however, from the ranks of lawyers and politicians. To this aristocracy art, learning, and science have contri-

buted sparse ingredients, but these mostly chosen for celibacy or childlessness. A remarkable body of men, nevertheless; with an average "horse-power," as Samuel Butler would have said, far exceeding that of any random sample of the middle-class. If only man could be reproduced by budding what a simplification it would be! In vegetative reproduction heredity is usually complete. The Washington plum can be divided to produce as many identical individuals as are required. If, say, Washington, the statesman, or preferably King Solomon, could similarly have been propagated, all the nations of the earth could have been supplied with ideal rulers.

Historians commonly ascribe such changes as occurred in Athens, and will almost certainly come to pass in the United States, to conditions of life and especially to political institutions. These agencies, however, do little unless they are such as to change the breed. External changes may indeed give an opportunity to special strains, which then acquire ascendancy. The industrial developments which began at the end of the eighteenth century, for instance, gave a chance to strains till then submerged, and their success involved the decay of most of the old aristocratic families. But the demagogue who would argue from the rise of the one and the fall of the other that the original relative positions were not justifiable altogether mistakes the facts.

Conditions give opportunities but cause no variations. For example, in Athens, to which I just referred, the universality of cultivated discernment could never have come to pass but for the institution of slavery which provided the opportunity, but slavery was in no sense a cause of that development, for many other populations have lived on slaves and remained altogether inconspicuous.

The long-standing controversy as to the relative importance of nature and nurture, to use Galton's "convenient jingle of words," is drawing to an end, and of the overwhelmingly greater insignificance of nature their is no longer any possibility of doubt. It may be well briefly to recapitulate the arguments on which naturalists rely in coming to this decision both as regards races and individuals. First as regards human individuals, there is the common experience that children of the same parents reared under conditions sensibly identical may develop quite differently, exhibiting in character and aptitudes a segregation just as great as in their colours or hair-forms. Conversely all the more marked aptitudes have at various times appeared and not rarely reached perfection in circumstances the least favourable for their development. Next, appeal can be made to the universal experience of the breeder, whether of animals or plants, that strain is absolutely essential, that though bad conditions may easily enough spoil a good strain, yet that under the best conditions a bad strain will never give a fine result. It is faith, not evidence, which encourages educationists and economists to hope so greatly in the ameliorating effects of the conditions of life. Let us consider what they can do and what they cannot. By reference to some sentences in a charming though pathetic book, "What Is, and What Might Be," by Mr. Edmond Holmes, which will be



well known in the Educational Section, I may make the point of view of us naturalists clear. I take Mr. Holmes's pronouncement partly because he is an enthusiastic believer in the efficacy of nurture as opposed to nature, and also because he illustrates his views by frequent appeals to biological analogies which help us to a common ground. Wheat badly cultivated will give a bad yield, though, as Mr. Holmes truly says, wheat of the same strain in similar soil well cultivated may give a good harvest. But, having witnessed the success of a great natural teacher in helping unpromising peasant children to develop their natural powers, he gives us another botanical parallel. Assuming that the wild bullace is the origin of domesticated plums, he tells us that by cultivation the bullace can no doubt be improved so far as to become a better bullace, but by no means can the bullace be made to bear plums. All this is sound biology; but translating these facts into the human analogy, he declares that the work of the successful teacher shows that with man the facts are otherwise, and that the average rustic child, whose normal ideal is "bullacehood," can become the rare exception, developing to a stage corresponding with that of the plum. But the naturalist knows exactly where the parallel is at fault. For the wheat and the bullace are both breeding approximately true, whereas the human crop, like jute and various cottons, is in a state of polymorphic mixture. The population of many English villages may be compared with the crop which would result from sowing a bushel of kernels gathered mostly from the hedges, with an occasional few from an orchard. If anyone asks how it happens that there are any plum-kernels in the sample at all, he may find the answer perhaps in spontaneous variation, but more probably in the appearance of a long-hidden recessive. For the want of that genetic variation, consisting probably, as I have argued, in loss of inhibiting factors, by which the plum arose from the wild form, neither food, nor education, nor hygiene can in any way atone. Many wild plants are half-starved through competition, and transferred to garden soil they grow much bigger; so good conditions might certainly enable the bullace population to develop beyond the stunted physical and mental stature they commonly attain, but plums they can never be. Modern statesmanship aims rightly at helping those who have got sown as wildings to come into their proper class; but let not anyone suppose such a policy democratic in its ultimate effects, for no course of action can be more effective in strengthening the upper classes whilst weakening the lower.

In all practical schemes for social reform the congenital diversity, the essential polymorphism of all civilised communities must be recognised as a fundamental fact, and reformers should rather direct their efforts to facilitating and rectifying class-distinctions than to any futile attempt to abolish them. The teaching of biology is perfectly clear. We are what we are by virtue of our differentiation. The value of civilisation has in all ages been doubted. Since, however, the first variations were not strangled in their birth, we are launched on that

course of variability of which civilisation is the consequence. We cannot go back to homogeneity again, and differentiated we are likely to continue. For a period measures designed to create a spurious homogeneity may be applied. Such attempts will, I anticipate, be made when the present unstable social state reaches a climax of instability, which may not be long hence. Their efforts can be but evanescent. The instability is due not to inequality, which is inherent and congenital, but rather to the fact that in periods of rapid change like the present, convection-currents are set up such that the elements of the strata get intermixed and the apparent stratification corresponds only roughly with the genetic. In a few generations under uniform conditions these elements settle in their true levels once more.

In such equilibrium is content most surely to be expected. To the naturalist the broad lines of solution of the problems of social discontent are evident. They lie neither in vain dreams of a mystical and disintegrating equality, nor in the promotion of that malignant individualism which in older civilisations has threatened mortification of the humbler organs, but rather in a physiological co-ordination of the constituent parts of the social organism. The rewards of commerce are grossly out of proportion to those attainable by intellect or industry. Even regarded as compensation for a dull life, they far exceed the value of the services rendered to the community. Such disparity is an incident of the abnormally rapid growth of population and is quite indefensible as a permanent social condition. Nevertheless capital, distinguished as a provision for offspring, is a eugenic institution; and unless human instinct undergoes some profound and improbable variation, abolition of capital means the abolition of effort; but as in the body the power of independent growth of the parts is limited and subordinated to the whole, similarly in the community we may limit the powers of capital, preserving so much inequality of privilege as corresponds with physiological fact.

At every turn the student of political science is confronted with problems that demand biological knowledge for their solution. Most obviously is this true in regard to education, the criminal law, and all those numerous branches of policy and administration which are directly concerned with the physiological capacities of mankind. Assumptions as to what can be done and what cannot be done to modify individuals and races have continually to be made, and the basis of fact on which such decisions are founded can be drawn only from biological study.

A knowledge of the facts of nature is not yet deemed an essential part of the mental equipment of politicians; but as the priest, who began in other ages as medicine-man, has been obliged to abandon the medical parts of his practice, so will the future behold the schoolmaster, the magistrate, the lawyer, and ultimately the statesman, compelled to share with the naturalist those functions which are concerned with the physiology of race.

## Medical Journal of Australia.

SATURDAY, AUGUST 29, 1914.

It is with the most profound regret that we have to announce the death of Sir Normand MacLaurin at the age of 78 years. As reported in our issue of August 15, Sir Normand underwent an operation about three weeks ago. He recovered well from the immediate effects of the operation. Renal complications, however, set in at a later date, to which he succumbed at a private hospital, in Darlinghurst, Sydney, on 24th August, 1914.

### The Darling Downs Skull.

The dramatic announcement of the discovery of a primitive Australian skull in the Anthropological Section of the British Association on August 21st lifts the meeting out of the usual run, and places it in a category of rare Congress meetings at which a signal discovery is first divulged. The world has not been subjected to such a surprise since 1901, when Koch made his startling announcement of the small pathogenicity of human tubercle bacilli for cattle and of bovine tubercle bacilli for man. There are disadvantages attached to the enunciation of startling theories, and even of revolutionary facts at a Congress, inasmuch as no scientist will hazard an opinion on the spur of the moment, and the public is inclined to accept the statement of an illustrious man, no matter how far reaching such an announcement may be, long before those competent to judge have either confirmed or refuted it. But in the case of find of primitive skeletal remains, the matter is different, and no objection could possibly be made to the selection of a Congress meeting for the announcement of the discovery. The members of the British Association were not entirely unprepared to receive this announcement, for even if the President has turned their minds to speculations of an unusually cautious nature toward the future, Professor Elliot Smith had in his various lectures

been rivetting the attention of the whole of intellectual Australia to the dim past. The story of the discovery of the Darling Down skull has been told in a most fascinating manner by Professor Wilson. To the west of Brisbane a stockman had unearthed the skull, and had unfortunately removed it from its surroundings. A photograph of the skull was taken and sent to Professors David and Wilson, who immediately took steps to have the treasure transmitted to Sydney, where they embarked on their study. The skull is damaged, but not so badly that much difficulty in experienced in determining its characters. It is partly fossilized, and there is some fossil encrustation on it. The measurements are on this account likely to be incorrect, as compared with the measurements of the skull when the owner died, several thousand years ago. The canine teeth protrude like tusks, and from the development of the permanent teeth, it is assumed that the owner was a boy of 14 or 15 years. The cranial cavity is extremely small, and the type corresponds to the earliest type of human skulls. As Professor David pointed out, its geological antiquity could only be fixed with anything like certainty had the skull been seen in its resting place, from which a clue could have been obtained by the nature of the deposits. It is not known exactly where the skull lay buried, and therefore the evidence of geological deposits is wanting. The two professors have consequently been restricted in their study to the observation of the extent of the distortion by pressure and of the fossilization, as well as of the anatomical characters. They suggest, tentatively—since their studies are as yet incomplete—that they are dealing with a remains of the pleistocene age—the great ice age. It is known that the Darling Downs are rich in remains of extinct animals belonging to this age, and the supposition is therefore not unreasonable.

While no surprise need be expressed that Australia was populated at a period of perhaps 25,000 or 30,000 years ago, there has been in the past much dispute in connexion with some of the earliest finds of human remains. This especially applies to the Piltdown skull. The geological antiquity of the Neanderthal skull and the so-called Gibraltar

skull is now generally accepted as belonging to the pleistocene age. Enough is known of the Neanderthal man to form some conception of his appearance and of his habits. Something is known of the structure of the caves in which the prehistoric man dwelt. The researches of Lyell, de Perthes and Schmerling in the earlier part of the nineteenth century, of Cro-Magnon and Virchow toward the end of the century, and of numerous workers in more recent times, including Elliot Smith, Keith, Sudhoff, Erman, Loeschke and many others have traced many of the characters of these early inhabitants of the earth. Their primitive fire-stone instruments, including knife-like splinters, choppers, axes and chisels are well-known and held to be typical of the instruments employed before the use of metal was discovered. The mental type of the primitive man must have been extremely low, and Professor Elliot Smith appears to be justified in speaking of him as an individual whose intellect was just developing before his body had become differentiated from the type immediately below him. When the origin of the Neanderthal man's skull was first questioned, no less an authority than Vogt declared it to be the skull of an idiot. Virchow suspected the truth in placing the small brain cavity and the curiously elongated skull to an intermediate type. It is, of course, impossible for anyone to dogmatize at present in regard to the Darling Downs skull, but the great development of the protruding canine teeth, the elongated, small and prognathous skull, and the small brain cavity appear to be very strong evidence that this skull belongs to that age. If this be eventually accepted, the fact that not only the west of the globe, but also this continent was populated by a primitive man in the ice age opens out a new chapter in the science of the descent of man.

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A PUBLIC DUTY.

It is a curious anomaly that while the practice of medicine depends to a very large extent on knowledge laboriously obtained by men who devote their lives to the investigation of physiological phenomena and pathological processes, neither the physicians who benefit by this knowledge in their practice of medicine, nor the patients who receive

the advantage of the knowledge thus secured, nor yet the State for whom a diminution of disease and an improvement of the health of the community mean a distinct economic advantage, contribute one penny towards this end. In view of the present arrangements obtaining in regard to the practice of medicine it is out of the question to require those in practice to contribute to the cost of research. It is equally impossible to impose on the patients the burden of supporting the investigator, whose work renders the treatment of disease possible. The duty, therefore, devolves on the State to make such provision as will render reasonably satisfactory the financial position of those investigators who devote their lives to the study of problems connected with the prevention and cure of disease. Sir Ronald Ross has performed a very important duty to medical science. He has presented a petition to the Government of Great Britain, asking for compensation for loss in his profession incurred through his long-continued investigations on malaria. It appears that during the early part of last century Parliament voted grants of money to men of science who had contributed to the advancement of knowledge. No such fund exists at present. Sir Ronald received no satisfaction, nor did his champions who took the matter up in the House of Commons. A special committee of the British Science Guild has been elected to consider a report on the whole question and on the principle involved. The personnel of this committee justifies the belief that its labours will result in an effective reform. As long as Governments do not provide adequate remuneration for those engaged in the laboratories at home and abroad, and do not set aside sums of money which could be utilised for the support of the widows and orphans of dead investigators, the maximal output of good work in this direction cannot be expected. It must be remembered that commercial consideration never enters into the calculation of medical and hygienic investigators in the prosecution of their research. A few rare instances are known in which the discoverers of important truths have received directly or indirectly considerable recompense for their labours. In the majority of these instances, however, the gain has not been a per-



sonal one, but has gone to the improvement of the institute at which the work was carried out. It is in the interest of work of this description that no special remuneration or recompense should follow on special success. The work should be undertaken, as it usually is, in a scientific spirit, without a trace of commercialism. But the workers who have proved themselves to be efficient, in earnest, and industrious, should be assured of a reasonable livelihood. We presume that the committee of the British Science Guild will consider the whole aspect of the relations of the State to research. If this be so, it is to be anticipated that State endowment of research institutes and the establishment of various grades of research students and teachers will be seriously considered. The prospect of the recognition of the duty of supporting research in an adequate manner by the State is encouraging. Some time must elapse before the committee has drawn up its report and presented its recommendations to the Government. In view, however, of the present situation, the delay will be immaterial if the general principle involved is one recognised. The adjustment of the details can be made at a later date.

#### THE ENDOWMENT OF RESEARCH.

A number of the wealthier citizens of the United States appear to regard the financial support of research into the causes of disease and their prevention as an economy worthy of attention. While it cannot be regarded as an investment, there is obvious wisdom in this attitude of mind, and the nations of the world benefit considerably more by the endowment of research institutes than by the foundation of memorial hospitals, libraries or eleemosynary institutions. Mr. John D. Rockefeller, acting on this principle, is unloading some of his wealth by providing the Rockefeller Institute for Medical Research in New York with the wherewithal to conduct its work in an unhampered fashion. He has recently given an additional sum of over half a million pounds sterling for the purchase of land, and for the building and equipment of laboratories. The Rockefeller Institute has received two and a half million pounds sterling from its generous founder in all. The Institute, when completed, will occupy an area of about four acres, and will have departments dealing with pathological, bacteriological, protozoological, biological, and animal pathological research, as well as a special hospital for the study of certain forms of disease in the human subject. This idea is not confined to America. The generosity of Lord Iveagh, in connection with the Lister Institute, and the large

legacies received within recent years by the Pasteur Institute indicate that it is being carried into effect in other countries as well. We hope that before very long the example of Mr. Rockefeller will be emulated by some wealthy Australian.

#### THE UNIVERSITY OF SYDNEY.

A charming and highly interesting volume has been published on the University of Sydney, illustrative of its history and progress. We take this opportunity of congratulating the author, Mr. Robert A. Dallen, on his excellent production, which fulfils his aim of giving a vivid account of the buildings, their surroundings, and their functions. The volume is freely illustrated, and many of the pictures are beautiful as well as full of interest. From its pages we learn that the University, which was opened in 1852, took its foundation from the Sydney College, situated opposite Hyde Park, on a site now occupied by the Sydney Grammar School. The Legislative Council appointed a select committee in 1849 to report on the best means of instituting a University for the promotion of literature and science. The members of this committee worked out a scheme which was eventually adopted, and the University resulting therefrom was incorporated by an Act of the Legislature in 1850. William Charles Wentworth was the founder of the University. At first there were chairs for classics, mathematics, and chemistry and experimental physics. In 1852 24 candidates passed their matriculation examination. The University has developed, in the course of the 62 years of existence, into something quite unrecognisable. There are now 144 professors, assistant professors, lecturers, demonstrators and honorary lecturers. The number of graduates has increased to 1630. In 1852 the Government devoted £30,000 towards the cost of building, and £5000 as an annual endowment. In 1913 the statutory endowment and the Parliamentary vote amounted to £44,966, while the total revenue for the year was £90,605. A description is given of the site of the main building, with its great hall, of the Foster Library, and of the Nicholson Museum.

The medical school was started in a small cottage of four rooms, in 1883. It is to Sir Thomas Anderson Stuart that the University, and indeed the Commonwealth, is indebted for one of the largest and best medical schools in the whole world. In 1887 a large building was erected from plans drawn up in accordance with Sir Thomas's scheme, which allows still further expansion of the school. The building has cost approximately £120,000, and contains five lecture theatres, a great dissecting room, and an excellent museum, in addition to class rooms and laboratories. In 1890 the Chair of Anatomy was founded, and the Chair which Professor Anderson Stuart occupied was altered from Anatomy and Physiology to Physiology alone. Lastly, mention must be made of the Sydney University Union, which is one of the oldest University societies, having been founded in 1874. A new home for the union was opened in 1913, in which good accommodation for the members is provided.

## Abstracts from Current Medical Literature.

### PATHOLOGY.

#### (86) A Maggot Trap for Flies.

"The Boston Medical and Surgical Journal (May 14, 1914) contains a reference to a trap for the maggots of the common domestic fly. It appears, from preliminary experiments, that officers of the Department of Agriculture in the United States have been successful in trapping in this way from 70 to 99 per cent. of the maggots in a pile of manure. The former figure was obtained when the manure was dry, and the latter when it was kept moist. Careful observation has shown that these maggots have a habit of migrating for their breeding-places into drier portions of the manure heap, which accounts for the difference in the percentages. So far, the experiments have only been conducted on a small scale. No details as to the nature of the trap are given.

#### (87) Transplantation of the Kidney.

Alexis Carrel (Internat. Surg. Assoc., New York, April, 1914, in "J. of the Amer. Med. Assoc.," May 16, 1914, p. 1582) reports the successful autoplasmic transplantations of the kidneys in dogs. In most cases, the animal remained in the best of health. A female dog that underwent a double nephrectomy and replantation of one kidney, remained in perfect health, had a number of pups, and died of an intercurrent disease, almost two and one half years after the operation. Microscopic examination of the kidney showed that it was quite normal. By this and similar experiments, it has been definitely proved that the extirpation of the kidney, its perfusion with Nocke's solution, the complete interruption of the circulation for from fifty to sixty minutes, and the suture of its vessels and ureter does not interfere with its function. In homoplasmic transplantations of the kidneys, the results are different; after six to seven days, albumin appears in the urine and the kidney becomes congested. After twenty-five to thirty days there is a great deal of albumin, and in one instance there was hæmaturia. After seven or eight months the albumin disappears, but the kidney is found to be in a sclerotic condition. When the animals undergo a bilateral nephrectomy, they always die in a few weeks.

#### (88) Oxyuris in the Appendix.

Jones and Campbell ("Parasitology," June, 1914), after reviewing the literature on the occurrence of various helminth parasites in the appendix, detail their own experience as to the relative frequency of such infections. The investigations were carried out in Aberdeen, over 150 appendices being examined, having been obtained by operation from cases of appendicitis. Worms—in all the cases oxyuris vermicularis—were found in 17 per cent., being usually most numerous at the proximal end of the appendix. A later paper will deal with the relationship of infestation by worms to appendicitis. In

their conclusions, however, they point out that the recurrent type of appendicitis is most frequently associated with oxyuris infection, that there is probably a clinical type of oxyuris appendicitis, and that the suppurative type of appendicitis has practically no relationship to oxyuris infection.

#### (89) Food Poisoning Through Milk.

Kerr and Hutchens ("Proc. Roy. Soc. Med.," Epidem. Sect., May, 1914), give details of a highly important investigation into an outbreak of food-poisoning due to Gaertner organism conveyed through the medium of milk. The illness was characterised by severe gastro-intestinal disturbance and collapse, and affected at least 523 persons—all directly or indirectly supplied with milk from one farm—at Newcastle-on-Tyne, nearly all the cases commencing on one night. The incubation period varied from four hours to thirty-nine, being usually under eighteen hours. Five cases occurred at the farm itself, where it was ascertained that a recently-calved cow had shown signs of illness a day or so before, and had died almost synchronously with the occurrence of the outbreak, her milk being added up to the last, though it had diminished to about one-third of its usual quantity. Specimens for bacteriological examination were obtained from this animal about thirty-six hours after death. These consisted of a loop of intestine, the spleen, the uterus, the mesentery and mesenteric glands, and a few c.c. of blood-stained milky fluid obtained from the udder. In addition, stools from seven of the patients were also examined. From each of these sources a typical Gaertner organism was isolated. Serological tests with two of the strains against a Gaertner serum gave agglutinations up to 1 in 1000, but did not yield any clumping, even with a 1 in 20, against Aertrycke serum or paratyphus B. serum. It was ascertained that rat virus had not been laid in the neighbourhood.

In the discussion on this paper, Mac Fadden described a family outbreak of food-poisoning traceable to contaminated Australian canned corned beef. The mother had purchased in a small village shop 1 lb. of this meat. The amount given to her consisted partly of the remains of a 6 lb. tin opened the day before, and turned out on a wooden platter on the counter, and partly from a freshly-opened tin. Six out of eight members of the family were affected, the two boys who escaped being helped first, and receiving the portion taken from the newly-opened tin. In three of the cases the onset began in from thirty-two to thirty-four hours, in another case in four days, and in a fourth one in five days. The father's illness, which began in thirty-four hours, was fatal, and a bacteriological examination, carried out by Sutherland, had resulted, he understood, in the isolation from the spleen and other organs of a bacillus of the Gaertner—paratyphoid group. A careful consideration of all the data seemed to indicate that the canned beef, as opened, was not contaminated (other partakers of it had been unaffected),

but that infection with the pathogenic organism had occurred when open on the counter, possibly by contamination from rats or mice, which are known frequently to harbour organisms of this group.

#### (90) Tick Paralysis.

The occasional occurrence of "tick paralysis" in human beings in Australia, and the frequency of fatal cases in dogs, pigs, and other animals along the tropical and sub-tropical belts of Eastern Australia, renders any reference to the subject of tick infections of interest. Nuttall ("Parasitology," May, 1914), who has experimentally produced paralysis by means of the tick, *Dermacentor venustus*, gives details of "tick paralysis" in sheep in Cape Colony, and of "tick paralysis" in man in Oregon (reported by Temple). In South Africa, the tick is *Ixodes pilosus* (in Australia it is due to *Ixodes holocyclus*). The first symptom is lagging behind the rest of the flock, followed by paralysis, which may be complete within six hours. Fatalities are not common. The number of ticks present does not seem of importance, two producing as severe results as fifteen. Their removal leads to more rapid recovery. In the human cases from Oregon, the prominent symptom was paralysis, more or less extensive. Most of these cases recovered.

#### (91) Vaccines Standardised by Weight.

Wilson ("J. of Vaccine Therapy," Sept., 1913), gives details of his technique for the gravimetric standardisation of vaccines. . . . A piece of platinum foil, 2 cm. by 1 cm., is weighed on a balance, which is sensitive to 1-10th mgrm. During the weighing the foil should be enclosed in a thin sterile platinum or aluminium capsule, which is exactly counterbalanced by a similar structure on the right-hand scale. It is found that the weight of the foil remains constant, so that after the first weighing subsequent determinations are made by the "rider," and occupy only one minute. The foil is then seized in a Cornet's forceps, and its upper surface smeared with bacterial growth carefully removed by a platinum wire from an agar culture. At this stage no difficulty is experienced in the case of bacteria giving an abundant growth, e.g., staphylococci, *b. coli*, etc., but in the case of others, e.g., streptococci, it may be almost impossible to remove enough bacterial substance. In any case the surface of the medium must not be lacerated, and the growth abutting on the condensation water should be avoided. The object of the latter precaution is to avoid incorporating salt and extractives with the bacterial substance. The error due to such inclusions does not exceed 10 per cent., and is probably much less. This conclusion has been reached by weighing in a platinum capsule the dried growth before and after washing with distilled water. The platinum foil is then placed in a small test-tube, which has been sterilised by heat, loosely covered

after it has cooled. The tube is then placed in a small vacuum desiccator at a temperature not exceeding 50° C. After the tube containing the platinum foil has been introduced into the cylinder of the dessicator, the rubber cap is inserted, the pump started, and a stop-cock placed between the cotton wool bulb, and the cylinder shut so that a vacuum is rapidly formed. The aspirating action of the filter pump is allowed to continue throughout the drying process. At the end of fifteen minutes, or less, desiccation is complete. Air is then admitted by turning the tap, and is filtered by passing through the cotton wool. The foil is then taken out and weighed, and, according to the weight or the growth, a varying volume of normal saline solution is added, and the resulting emulsion heated to 60° C. The initial doses recommended are:—

	Millions Approximately.
<i>B. coli</i> , 1-300th mgrm. ....	= 20
<i>Pneumococcus</i> , 1-150th mgrm. ....	= 25
<i>Streptococcus</i> , 1-500th mgrm. ....	= 7
<i>Staphylococcus</i> , 1-25th mgrm. ....	= 120
<i>B. pneumoniae</i> Friedlaender, 1-50th mgrm. ....	= 88
	Millions Approximately (in broth culture).
<i>B. typhosus</i> , prophylactic, 1-10th mgrm. ....	= 500
<i>B. typhosus</i> , in treatment, 1-30th mgrm. ....	= 166
<i>Micrococcus catarrhalis</i> , 1-100th mgrm. ....	= 40
<i>B. pyocyaneus</i> , 1-100th mgrm. ....	= 34
<i>B. acne</i> , 1-500th mgrm. ....	= 10
<i>B. proteus</i> , 1-300th mgrm. ....	= 20

#### PEDIATRICS.

##### (92) The Etiology of Wry Neck.

Veit records the results of some animal experiments carried out for the purpose of determining the etiology of caput obstipum ("Arch. f. Klin. Chir.," Vol. 102, 1914). He resected the accessory nerve and obtained a degeneration of some fibres of the sterno-cleido-mastoid muscle, and of the upper margin of the trapezius. The microscopic picture coincided with that of caput obstipum, and the author believes that the caput obstipum is the consequence of an injury to the accessory nerve during birth.

##### (93) Acute Leukæmia simulating Caries of the Spine.

Rolleston and Frankau ("Lancet," Jan. 17, 1914) records the case of a boy, 5 years old, who had pains over the lower dorsal and upper lumbar vertebrae, with rigidity of the paravertebral muscles. There was no bony deformity, and no sign of spinal injury; all movement was painful. Spinal caries was diagnosed. He was markedly anæmic. The symptoms progressed, and the condition ended fatally. At the autopsy, no tuberculosis of the vertebral was found; the spongy matter was quite soft, and the compact layer of bone thinned. There was some changes in the bony marrow, which were shown to be typical of acute leukemia. The authors point out that the spleen was not enlarged, as it usually is in this condition. The liver was markedly enlarged.

##### (94) Coccygodynia.

Hamant and Pigache ("Rev. de Chir.," 1914, p. 70) state that the cause

of real coccygodynia is always traumatic. The severe and persistent pains are the result of a dislocation of coccyx, caused by external violence (a blow or a fall) or by internal traumatism (difficult birth). They recommend surgical treatment, consisting of resection of the coccyx. The removal of the bone ensures the cure of the coccygodynia, without producing any functional disturbance.

##### (95) Dysbasia Angiosclerotica (intermittent Limping).

Two years ago Goldflam directed attention to a symptom which he had observed in cases of intermittent limping, and which he called "apokamnosis." When the patient, laying in a horizontal position, lifts the extended leg repeatedly, the foot and, at times, the lower part of the leg, become very pale. A reactionary redness often follows the pallor. J. Favre ("Deutsch. Zeitsch. f. Nervenheilk.," Vol. 49, Nos. 4-6, 1914) state that he has been able to confirm this operation in eight patients. In six of the cases the typical symptoms of intermittent limping were present. In the remaining two, the characteristic intermission was absent but all the other symptoms were present. He raises the question whether excessive smoking is responsible for the condition of dysbasia angiosclerotica, as has been suggested by Erb.

##### (96) Erachial Neuritis due to Periostitis of Rib.

French ("Boston Med. and Surg. Journ.," Jan. 1st, 1914) records the case of a woman, age 40, who had suffered for fifteen years from pain in the left middle finger. The pain had become permanent. It was increased by pressure on the tip of the finger, but not by movement. There was no history of traumatism or of anything which could explain the nature of the condition. Local and internal treatment had been carried out without effect. A small hard tumour was discovered on the clavicle. Pressure on this tumour caused pain in the middle finger. No cervical rib was present. This was demonstrated by radiography. An operation was performed, at which a nerve trunk, which was involved in periosteal thickening, was freed and removed, together with part of the first rib. The operation resulted in the disappearance of the pain.

##### (97) The Nature of Arthritis Deformans.

In the course of his experiments, Axhausen ("Zeitsch. f. Orthop. Chirur.," Vol. 33, 1914) has succeeded in producing four patches of necrosis of cartilage, varying from the size of a millet seed to that of a pea, in the knee-joint of a dog, by electrolysis, applied one year previously. All the classical signs of arthritis deformans had been produced. He demonstrates that these changes cannot have been due to the simple opening of the knee-joint. In none of the control animals, whose joints were opened but not subjected to electrolysis, were changes of a similar nature observed.

##### (98) Etiology of Infantile Paralysis.

J. Bruno ("Munch. Med. Woch.," No. 36, 1913) deals with an unusual source

of infection of cases of anterior poliomyelitis. A girl of three, and her brother, were found to be suffering from infantile paralysis, following an attack of tonsillitis. The infection was traced to some live ducks which had been received a few weeks before. The ducks were allowed to run about the children's playground. Four of the ducks developed signs of paralysis some weeks before the children were taken ill, and one of them died. The father and mother, and an aunt, of the little patients became ill, the symptoms being those of an intestinal disturbance, and a servant developed severe rheumatic pains in the neck and back. Other cases were observed in the neighbourhood of Heidelberg, the infection apparently being spread by animals. One child, whose father kept cattle, was attacked with anterior poliomyelitis, and another isolated case occurred in a district where a goat, a bullock and a chicken had died with symptoms of paralysis ten days previously. Bruno suggests that special means be taken to prevent the spread of the disease by domestic and farm-yard animals.

##### (99) So-called Sciatic Scoliosis.

Denucé's latest observations have led him to the conclusion that sciatic scoliosis cannot exist ("Rév. d'Orthopéd.," No. 6, 1914). The inclination of the body toward the sound side which patients suffering from sciatica often adopt is a position voluntarily chosen to ease the pain. When a real scoliosis is observed in a case of sciatica, its cause will invariably be found to be tuberculosis or syphilis. Denucé has observed a case of scoliosis associated with sciatica. The patient was treated with anti-syphilitic remedies, and both the pain in the sciatic nerve and the lateral curvature disappeared.

##### (100) Gaucher's Disease.

Brill and Mandlebaum (Amer. Jour. of Med. Science, 1913) describe under this heading a special type of splenic anemia, with a well-defined morbid anatomy and distinctive clinical symptoms. Gaucher's Disease appears insidiously in children, usually before 12 years of age. It occurs in families, but is not hereditary. The spleen is enormously enlarged (aver. wt. 7.2 lbs) as is the liver. There is a brownish yellow discolouration of the skin, and a peculiar wedge-shaped yellow thickening of the cornea, usually on both sides of the cornea. The disease is very chronic, the health being little affected at first, but later hæmorrhages occur from the nose and gums, and into the skin, following on slight injuries. Leucopenia is marked, but is a late symptom. Jaundice never occurs, and ascites but rarely. In the spleen, liver, lymphatic glands, and marrow large cells (20-40 in. in diam.) are found. They contain small nuclei, and their cytoplasm appears to be wrinkled. Out of fourteen recorded cases twelve occurred in females. Splenectomy, though other organs are also affected, gives the best results in treatment.



## THE SMALL-POX EPIDEMIC AT BUNBURY.

The whole of Australia has, unfortunately, within the past 18 months, had opportunity of experiencing the hardships which result from quarantine restrictions rendered necessary by the outbreak of smallpox in New South Wales. Fortunately this outbreak has proved mild in nature, and there has been no decimation of the community such as must have occurred had a virulent type of disease attacked an unvaccinated population.

Quite recently a small outbreak of smallpox of the Asiatic type occurred at Bunbury, in Western Australia. Seven cases occurred; one patient died, and one patient developed a hæmorrhage type of disease, from which, however, she recovered.

Fortunately, through the untiring efforts of the health authorities the outbreak was confined to Bunbury, and Western Australia, and probably the whole of Australia, was saved from a repetition of last year's experience, with the added dangers of a more virulent type of disease.

The disease was introduced into Bunbury by a Lascar from the S.S. Kilehatten, from Bombay, which port was left on April 8th. On April 26th Busselton, on the W.A. coast, was reached, but up to that time no case of sickness had occurred on board. On May 2nd Bunbury was reached, but it was not till May 4th that the medical man at Bunbury was asked to see the Lascar. On that day his temperature was 102.8 deg., and he was landed and taken to the General Hospital on the following day. Nothing had occurred up to this time to arouse suspicion of small pox, especially in view of the fact that an interval of 27 days had elapsed since the ship left the infected port.

On May 5th the patient's temperature fell to 99 deg., and to normal. On May 9th a rash of a vesicular nature appeared on his forehead, arms and hands. The condition was diagnosed as chicken-pox, but on the 10th the case was recognised as one of smallpox. The general hospital at Bunbury, where the patient was an inmate, was quarantined. All patients were vaccinated with the exception of a patient suffering from typhoid fever, and one who had recently been operated on for appendicitis. Both of these patients were considered to be too ill to justify the vaccination.

The day before the case was diagnosed as smallpox two patients were discharged from the hospital.

On the 24th May one of these men was pronounced to have small-pox. He had, in the interval since his discharge from hospital, travelled over a considerable area of country, and mixed freely with the occupants of several timber camps. He was immediately brought to Bunbury by motor, and placed in the quarantine station, where he developed a full eruption of the discrete type.

On the 25th May a boy, who had been in the Bunbury Hospital when the Lascar was first admitted, was found to be suffering from small-pox, and removed to the quarantine station. This lad had been vaccinated when the diagnosis of small-pox in the Lascar's case was made. There was no evidence of the vaccination having taken. He had no previous history of any vaccination. The rash developed quickly into confluent form over the whole body, and he died on 7th June.

Another man who had been operated on in the Bunbury Hospital for appendicitis developed a prodromal rash on May 22nd, and on May 24th was removed to the quarantine area suffering from small-pox. He had been vaccinated in infancy, but not since. The rash was of the discrete variety.

On May 23rd the matron and nurse of the Bunbury Hospital had symptoms which were suspicious, and they were isolated. The matron's case assumed the hæmorrhagic form, and she was very prostrated, and vomited excessively. The face, body and extremities, including the palms of the hands and soles of the feet, were involved in the rash. She was extremely ill for several days, but the symptoms gradually abated, and she eventually recovered. She had a history of vaccination in infancy, in 1891, and again in 1901. The nurse assumed the discrete form, and, after the first few days, presented no dangerous symptoms.

Another nurse who had been in attendance upon the Lascar and who was stated to have been vaccinated some

few months before, fell ill on May 23rd. She had taken up duties on May 14th.

On May 26th a mild discrete eruption appeared on the face, forehead and extremities.

On May 26th another nurse arrived, having been vaccinated just before assuming duty. This vaccination did not take, and she was re-vaccinated on June 3rd. This took well. On June 5th she felt ill. On June 7th a few spots of a variolous nature appeared on the face, forehead and different parts of the body.

Seven cases in all occurred, apart from that of the Lascar. These were as follows: One confluent (fatal), one hæmorrhagic, two severe discrete, one moderately severe discrete, and two very mild forms, probably modified by vaccination.

It was realized from the first that grave danger existed, on account of the number of people with which some of these patients had associated before their condition was diagnosed.

Bunbury was quarantined under the powers of the Health Act, and vigorous search made to determine the number of people with whom the patients had associated in the interval between their discharge from the Bunbury Hospital and the appearance of the first symptoms of the disease. Inquiries were also instituted as to the likelihood of infection existing among the residents of Bunbury and among the contacts who had visited the hospital.

On May 26th all the contacts of the man who had visited the timber-camps were located, and arrangements were made with the Railway Department to bring them by special train into a camp on the quarantine reserve, Bunbury, where they were lodged on that day.

The success of being able to secure the whole of these men who were living in the camps was due to the fact that they were all known to, and influenced by, the manager of the timber mills. When they understood the gravity of the situation they offered no objection to the measures adopted.

Following the removal of the contacts, the tent which had been occupied by the small-pox patient when in camp, together with the adjoining one and their contents, were destroyed by fire, as were also the bedding and linen used by him in the boarding-house at Donnybrook.

The other portions of the camp, with the boarding-house at Donnybrook, were thoroughly disinfected.

To the camp on the quarantine reserve at Bunbury were also conveyed several people from Bunbury, who had been in close touch with the other cases.

The majority of the contacts at the camp submitted to vaccination, and on the 9th June, there having been no further outbreak of small-pox, either along the route of the timber-workers' pilgrimage, or among the Bunbury inhabitants, the quarantine of Bunbury was raised, it having been maintained for fifteen days.

On May 25th, free vaccination was offered, and it is calculated that 3000 out of a population of 4000 submitted to this procedure. Of the remaining 1000, more than 50 per cent. had been vaccinated within the last twelve months, following on the outbreak of small-pox in Sydney.

The vaccination entailed considerable trouble, as failures were very numerous, and re-vaccination had to be resorted to—the lymph apparently being inert. Fresh supplies came to hand, however, and better results were obtained.

About 45 of the contacts who were successfully vaccinated were discharged on June 10th. Some few who had refused to be vaccinated were detained until June 15th. Vaccination was also extensively carried out at the various timber mills, and at Donnybrook and the surrounding districts.

Two contacts were traced to Perth, having left Bunbury before the town was placed in quarantine. They were lodged at the quarantine station, Woodman's Point.

It was further considered necessary to order all vessels leaving Bunbury for inter-State ports to work under quarantine restrictions, owing to the refusal at first of the lumpers and wharf-labourers to submit to vaccination. Later, however, these were all vaccinated.

All the ships' crews were vaccinated as long as the embargo rested on the town. All roads leading into the town were guarded. No person was allowed to leave Bunbury without an order. Successfully vaccinated persons

had to get a surveillance form before being allowed to leave.

The last case of small-pox occurred on June 6th. With the exception of one case, which proved fatal, all made an uninterrupted recovery, and have recently been discharged.

Dr. Hope, Commissioner of Health in Western Australia, was subjected to much adverse criticism by lay members of the community for the stringent measures adopted. His action, however, was fully justified, inasmuch as it led to the checking of a dangerous epidemic before it had spread very far. He is to be congratulated for his firmness, and for the manner in which he carried out the effective preventive measures.

One point of great interest in connexion with this outbreak is the long incubation period which occurred in the case of the Lascar, and which undoubtedly led to the primary diagnosis of chicken-pox being made. The boat left Bombay on April 8th, with a clean bill of health. The first complaint of sickness was made at Bunbury on May 4th, twenty-seven days after leaving an infected port, and it was not till another five days had elapsed that the rash appeared.

### British Association for the Advancement of Science.

The members of the British Association for the Advancement of Science completed their programme in Melbourne on Wednesday, August 19th, and journeyed to Sydney on the following day.

On Thursday, August 20th, Professor William Bateson, M.A., F.R.S., delivered the second part of his address as President, before a large audience in the Town Hall. The address, which will be found on page 173 (August 22nd) and 197 (of this issue) was enthusiastically received. His Excellency Sir Gerald Strickland, in his opening speech, said that he considered it a great honour to be in a position to offer to the President and members of the British Association for the Advancement of Science a hearty welcome in the name of the city of Sydney and the State of New South Wales. This welcome was not less warm in that it was extended to the members of the Association who came from countries other than our own, and from the sister States. He pointed out with some pride that New South Wales had swelled the number of associate members by 1600. "It is a source of joy," he said, "in these times to feel that amongst the links of Empire, that which is based upon science and knowledge is here amongst us to-day." He wished them to remember that, after all, knowledge is power. The Governor then proceeded to introduce the President, Professor Bateson, who belonged to the same university as he did. In touching upon the subject of the lecture which the President was about to deliver, he made some reference to the work done in New South Wales by Farrer in connexion with the application of the principles enunciated by Mendel to the practical study of heredity. He stated that Australians had appreciated the utilitarian results which emanated from the scientific analysis of these problems, since they affected the production of wheat and the possession of valuable stocks of sheep. He was sure that they would all derive the greatest intellectual benefit from listening to the utterances of the master of these subjects.

At the end of the lecture, Sir William Cullen proposed a hearty vote of thanks to Professor Bateson. He spoke of the address in terms of the highest appreciation. Sir Edward Schaefer, in seconding the motion, expressed the opinion that the address was epoch-making, and would create a very profound impression on the mind of the scientific world.

The vote of thanks was passed by acclamation.

On Friday, August 21st, the members were entertained at a luncheon by the New South Wales Government at the Town Hall. In proposing the health of the Association, Mr. Holman (the Premier) said that he, as representative of the State Government, felt a deep sense of the importance of the occasion. The British Association held its

annual meetings for the purpose of announcing to the world the advances made in the fields of science during the year. It was an important epoch in the history of the Commonwealth that a body of such world-wide renown should hold its meeting in Australia. In referring to the President's remarkable and illuminating address, he suggested that even the members who had been mere listeners had contributed to one of the events in the history of science. Mr. Holman attempted to show how the whole world was united in matters of scientific interest, even at a time when, unfortunately, the nations were engaged in an unhappy struggle. He dealt with the advancement of science and the part played by the British Association in this regard, and expressed regret that the immediate and obvious results of the meeting should be to some extent marred by the war. In his reply, Professor Bateson said that everyone knew that the meeting was an extraordinary occasion. He felt sure that the outcome of their deliberations would be a spread of scientific feeling, and a widening of the sympathies of those who had been somewhat narrower than the scientist desires. He hoped that many would become as cosmopolitan-minded as the Premier evidently was. He was convinced that everyone was possessed of some scientific feeling, and put truth before everything else. What, he asked, would be our position but for Pasteur or Lister? Scientists, who rose by the work of another man, never paused to consider to which nation the other man belonged. The scientific man looked to truth and truth alone. After all the strife that was going on in Europe, there would be some remaining who would be ready to unite those torn and injured surfaces that war must leave. The awful carnage going on in Europe meant more than he could say to the scientific world. He, and no doubt all his colleagues, received letters almost every day from France, Germany, Australia, the United States and the majority of the other nations now engaged in strife. He could scarcely say how their scientific work was to go on. But there did remain that feeling of universal love of truth which must be the chief element of regeneration by which the wounds would eventually be healed. After a few further brief references to the war, he checked himself by saying: "But enough of this horrible theme. We are in Australia, among friends." He concluded by expressing his admiration for Australia and things Australian, and by thanking his hosts most cordially for the noble reception that had been accorded to the members of the British Association.

In the evening, Professor G. Elliot Smith delivered a very lucid and highly interesting lecture on "Primitive Man," which was freely illustrated by means of lantern projections. Professor Elliot Smith received a great ovation, and the pride of those present of the New South Wales anthropologist who had attained eminence throughout the whole world was very evident. Professor Elliot Smith, in responding to Sir Thomas Anderson Stuart's speech of thanks, avoided to a great extent the personal element, and confined himself to a few platitudes.

The majority of the members spent the week-end by participating in one or other of the various excursions to places of interest. Only three of the sections had arranged for sessions for the afternoon of Monday, August 24th. These were the Sections of Chemistry, of Economics and Statistics and of Anthropology. On Monday evening, Sir Ernest Rutherford, F.R.S., delivered a lecture at the Lyceum Theatre, Pitt Street, on "Electrons and Atoms."

A reception and ball was given by the Lord Mayor at the Town Hall on Monday evening.

#### The Sections.

In the Zoology Section, Professor Arthur Dendy, D.Sc., F.R.S., delivered his Presidential Address on "Evolution." The address was very greatly appreciated by a full house, and was regarded as a contribution of unusual excellence. A number of papers were then read, but there was practically no discussion. Professor Poulton, F.R.S., spoke on Dr. Perkin's researches on the colours of the Sandwich Islands wasps; Professor Minchin, F.R.S., on trypanosomes in the invertebrate host, Dr. J. Burton Cleland on the size of the red blood corpuscles of some vertebrates and on Australian hematozoa. Professor O. Maas read a paper

on the adaption and inheritance in silkworms, and Mr. T. Steel one on peripatus and Australian land planarians.

On Tuesday, August 25th, Dr. S. J. Johnston read a paper on Australian trematodes and cestodes, Dr. W. Nicoll (of the Tropical Institute, Townsville) on the migration of the larvæ of onchocera and on parasitic worms in North Australia. An interesting discussion was opened by Professor Edgeworth David, F.R.S., on the past and present relations of Antarctica in their biological, geographical and geological aspects. The discussion was continued by members of the Sections of Zoology and of Geology, Geography and Botany. Professor Seward, F.R.S., Dr. Cockayne, F.R.S., Mr. C. Hedley, Mr. Griffith Taylor, Mr. H. A. Hunt, and Dr. Simpson took part.

In the afternoon of August 25th, Professor C. B. Davenport spoke on the heredity of some emotional traits, and Professor H. Jungersen spoke on some facts regarding the genus pegasus. Mr. W. W. Froggatt read a paper on the acquired habits of sheep maggot flies, Mr. R. J. Tillyard on the emergence of the nymph of anax papuensis from the egg, and Mr. H. H. Scott on the nototheria, their probable appearance and habits. The attendance on the 25th was good, and the chief discussion during the joint session was animated and interesting.

In the Section of Economic Science and Statistics, the subject of town-planning again occupied the attention of the members on Friday, August 21st. The papers dealing with the hygienic aspect of this subject were delivered by Dr. John Robertson, Mr. J. D. Fitzgerald and Mr. W. R. Davidge. Some discussion followed the reading of these papers.

On Monday, August 24th, Mr. T. R. Bavin dealt with the problem of food distribution in a modern city, and Professor H. O. Meredith spoke on the theory of economic evolution. The papers read before this section on Tuesday, August 25th, and Wednesday, August 26th, were confined to sociological problems.

The Section of Anthropology got through a long programme, much of which was composed of contributions by local anthropologists. On Friday, August 21st, Sir Everard im Thurn, K.C.M.G., C.B., read his presidential address, devoting himself to the study of primitive character. Dr. W. H. R. Rivers, F.R.S., made a communication on gerontocracy and marriage in Australia, Mr. A. R. Brown read a paper on the varieties of totemism in Australia, and the Rev. G. Brown, D.D., spoke of some nature myths from Samoa. On Monday, August 24th, Mr. R. Etheridge demonstrated the ethnological collections in the Australian Museum, Mr. S. A. Smith demonstrated some Solomon Island skulls, and spoke of the humerus of the aboriginal Australian. Professor J. T. Wilson, F.R.S., spoke on the symmetrical exostoses in the acoustic meatus in the Australian aboriginal skull, and demonstrated some of the other skeletal characters of this skull. Mr. Flashman exhibited some Australian aboriginal brains.

On Tuesday, August 25th, Dr. A. C. Haddon, F.R.S., opened a discussion on the study of native culture in relation to administration. Professor G. Elliot Smith also read a paper on the ancient inhabitants of Egypt and the Sudan. The remainder of the papers dealt with subjects of a non-medical nature.

The most striking occurrence in this Section was a demonstration given by Professors David and Wilson on August 21st of a skull found in close proximity to the pleistocene deposits of the Darling Downs. The announcement was made to a crowded section, and was almost theatrical in its effect. If the skull belongs to the great ice age, it will rank among the oldest of the prehistoric skulls discovered. A great burst of applause followed the demonstration, and in the interesting discussion that followed, Professor von Luschan, of Berlin, Professor Elliot Smith, Sir Everard im Thurn, Professor Berry (Melbourne) and Dr. Sollas congratulated Professors David and Wilson on the importance of the work, and the nature of their remarks gave the impression that they were inclined to accept the skull as a very primitive type.

In the Section of Physiology, Sir Thomas Anderson Stuart dealt with a number of interesting subjects on Friday, August 21st. These included the functions of the corpora arantii, the action of the stapedius muscle and the effect of simultaneous contraction of intercostal muscles. He

also demonstrated some highly ingenious physiological apparatus. Professor W. A. Osborne spoke of the physiological effect of heat and humidity, as registered by the wet bulb thermometer. Professor D. A. Welsh and Dr. H. G. Chapman read a paper on the action of snake venom on the blood corpuscles of various animals, with especial reference to certain Australian snakes. The President of the Section, Professor Benjamin Moore, F.R.S., dealt with precipitation of inorganic colloids, the action of ultraviolet rays on solutions of organic colloids, and the mechanism of photo-synthesis by iron salts. Dr. R. S. Halcro Wardlaw spoke of the precipitable substances in milk, and Dr. Burton Bradley on the symbiotic activities of coliform and other micro-organisms when cultivated on media containing carbohydrates and allied substances. The discussions on these papers were brief and somewhat disappointing.

On Tuesday, August 25th, Professor T. H. Milroy read papers dealing with the reaction of milk under varying conditions, and the variations of the concentration of hydrogen ions in the blood. Professor P. T. Herring dealt in two papers with the pituitary body and the supra-renal glands. Dr. H. G. Chapman dealt with the freezing point of laked red blood cells, both of man and of some domestic animals. Dr. C. Shellshear read a paper on the precipitin reactions in human urine in connexion with certain pathological conditions. Dr. H. Tasman Lovell dealt with some psychological subjects, and Dr. B. Muscic also attacked mental phenomena.

## British Medical Association News.

### MEDICO-POLITICAL.

An extraordinary general meeting of the Queensland Branch was summoned for Tuesday, August 11th. The number of members attending was less than that required to form a quorum, and consequently the meeting could not be held. At a meeting of the Council of the Branch, held on August 15, it was decided:—

"That the model agreement as adopted stand, except that in view of the conditions caused by the war the Queensland Branch of the B.M.A. decides that no present increase in previously existing fees for lodge patients be asked for."

The Council came to the conclusion that by carrying out the terms of the model form of agreement, the medical officers of lodges would inflict no hardship on their patients, and that the attendance given would be efficient. A letter setting forth the reasons for this line of action was sent by the Council to the lodge officials. The hope was expressed in this letter that co-operation of the lodges would be secured by the Association, in order that a mutually satisfactory solution of any difficulty which might arise could be arrived at. The Council relied on the loyalty of the members of the Association to carry out their part of the contract.

A meeting of the Council of the South Australian Branch was held on August 14, 1914. Dr. E. W. Morris, the President, reported that he had written to Mrs. Hamilton, acknowledging the generous gift of her husband, the late Dr. A. A. Hamilton, of five £10 preference shares in the British Medical Hall, Ltd., to the Council of the Branch.

On the motion of Dr. J. Corbin it was resolved that the members of the Branch be asked to approve of an increased annual subscription to the "Medical Journal of Australia," and that it be a requisition to the Federal Committee to deal with the matter in order that a uniform subscription may be fixed for the whole of Australia.

The attention of the Council was drawn to an advertisement in the daily press, published by the Life Insurance Company of Australia, Ltd., entitled "Free Hospital Treatment in any of the Public Hospitals in the State." It was determined that this offer was a direct incitement to hospital abuse, and that unless it be eliminated from the advertisement in future, the members of the South Australian Branch should be instructed not to act as referees for the Company.

The Council made the proposal that members who were called out on naval or military defence service should not



be asked to pay a colleague to look after their work during their absence. If the members of the Branch approve of this proposal, it is further suggested that the practitioners of the district in which those medical men who joined the forces live, should share the work between them. The public would be notified that any patient of a member serving the forces can consult or send for any medical man in his district. The patients would be informed that this is merely a temporary expedient, and that on the return of the absent member the practitioner who has been undertaking the treatment during his absence would refuse to continue in attendance.

The following letter has been addressed by the Council of the South Australian Branch to the Secretary of the South Australian Friendly Societies' Association.

Dear Sir,—In answer to your letter of July 8th, enclosing your proposed amendments to the Model Lodge Agreement, submitted by the South Australian Branch of the British Medical Association, we are directed by the Council to reply as follows:—

Several meetings have been held, and your Association's modifications discussed. The friendly manner in which the negotiations have been conducted, together with the scope of your Association's proposed amendments, portend the assurance of an early and amicable agreement.

In view, however, of the great issues which have arisen in the interval between our two last council meetings, and when we recognise how essential to success is the fostering of the spirit of unanimity, and when we realise the hardships which many will be called upon to suffer, and the sacrifices which all will have to make, we feel that this is not the time when we should come to you with a request for increased remuneration.

We therefore desire that for the present negotiations shall be put aside until such time as the war in which our Empire is engaged has ceased, which, in the interests of humanity, we pray may be not far distant.

Further, provided a Friendly Society, out of its Contingent Fund, keeps members engaged in active military or naval service good on the books for future benefits, the members of the South Australian Branch of the British Medical Association will attend the wives or widows or children or orphans of those members without the receipt of family fees, until the declaration of peace or discharge of such members from the military or naval forces.—Yours faithfully,

E. W. MORRIS, President.

H. S. NEWLAND, Hon. Secretary.

Adelaide, August 19th, 1914.

The following have been elected members of the New South Wales Branch:—

Dr. Francis J. Fahy, Waratah.

Dr. W. H. Kaye, Mosman.

Dr. John Malcolm, R.P.A. Hospital.

Dr. John Oswald, Stockinbingal.

Dr. Garnet E. Manning, Hurstville.

Dr. Gunna A. Buckley, R.P.A. Hospital.

Honorary Associate elected:—

Mr. Cecil Tanko, Quirindi.

## Public Health.

### INFECTIVE DISEASES IN WESTERN AUSTRALIA.

The following notifications have been received by the Department of Public Health of Western Australia for the week ended 8th August, 1914:—

District.	Diph-theria.	Phthisis.	Ery-sipelas.
Fremantle .. .. .	—	1	—
Claremont .. .. .	—	2	—
Subiaco .. .. .	3	—	—
Perth .. .. .	3	1	1
Perth North .. .. .	—	—	1
Midland Junction .. .. .	1	—	—
Kalgoorlie .. .. .	1	—	—
Boulder .. .. .	—	1	—

District.	Diph-theria.	Phthisis.	Ery-sipelas.
Coolgardie .. .. .	1	—	—
Childow's Well .. .. .	1	—	—
Mount Hawthorn .. .. .	1	—	—
Wagin .. .. .	—	—	1
Norseman .. .. .	2	—	—
Total .. .. .	13	5	3

### INFECTIVE DISEASES IN WESTERN AUSTRALIA.

The following notifications have been received by the Department of Public Health of Western Australia for the week ended 15th August, 1914:—

District.	Typhoid.	Diph-theria.	Phthisis.	Cerebo-Spinal Men-ingitis.
Fremantle .. .. .	1	1	1	—
Subiaco .. .. .	—	1	—	—
Perth .. .. .	—	1	—	—
Bayswater .. .. .	—	1	—	—
Kalgoorlie .. .. .	—	1	—	—
Boulder .. .. .	—	3	—	—
Coolgardie .. .. .	—	2	—	—
Day Dawn .. .. .	—	—	1	—
Pingelly .. .. .	—	1	—	—
Wagin .. .. .	—	—	1	—
Bellevue .. .. .	—	—	—	1
Mundaring .. .. .	—	—	1	—
Total .. .. .	1	11	4	1

### INFECTIVE DISEASES IN QUEENSLAND.

The following notifications have been received by the Department of Public Health, Queensland, during the week ended August 15th, 1914:—

Notifiable Diseases.	Number of Cases.
Typhoid Fever .. .. .	4
Diphtheria .. .. .	28
Varicella .. .. .	14
Phthisis .. .. .	10
Erysipelas .. .. .	4
Scarlet Fever .. .. .	3
Puerperal Fever .. .. .	2
Total .. .. .	65

The following have been elected members of the Queensland Branch:—

Dr. Streeter (Julius Edward), Charters Towers.

Dr. Charles Humphrey Lloyd, Warwick Hospital, Warwick.

Dr. Charles Gisborne Hurrey, Boulia, Queensland.

### SMALLPOX IN NEW SOUTH WALES.

The number of smallpox cases reported to the Department of Public Health, New South Wales, during the week ended August 16th, 1914, were:—

	Cases.
Metropolitan District of Sydney .. .. .	10
Country Districts—	
Armidale .. .. .	1
Breeza .. .. .	1
Helensburgh .. .. .	1
Moree .. .. .	1
Total .. .. .	14

### INFECTIOUS DISEASES REGULATIONS.

The following regulations relating to infective diseases have been issued by the Minister of State for Home Affairs for the Commonwealth of Australia on July 27, 1914, under the Public Health Ordinance, 1912 (No. 4 of 1912):—

1. These regulations may be cited as the "Infectious Diseases Regulations, 1914."
2. In these regulations, unless the contrary intention appears—

"Director-General of Public Health" means the person for the time being occupying the position of Director of Public Health for the Territory;

"Health Inspector" means the person for the time being occupying the position of Health Inspector for the Territory;

"House" means any building or structure, whether temporary or otherwise, including tents or vans, and includes a place of worship, school, factory, work-room, shop, hotel, public house, or other premises of a licensed victualler;

"Infectious Disease" includes leprosy, beri-beri, bubonic or Oriental plague, small-pox, cholera, yellow fever, cerebro-spinal meningitis, anterior polio-myelitis, Malta fever, pulmonary tuberculosis, erysipelas, scarlatina, or scarlet fever, measles, diphtheria, membranous croup, septicæmia, pyæmia, purulent ophthalmia, gastro-enteritis, or the fevers known by any of the following names:—Typhus, typhoid, malarial, dengue, low, continued, colonial, relapsing, or puerperal, and also includes the condition in which the organism presumed to cause any of the before-mentioned diseases is found to be present in any person;

"Medical Officer of Health" means the person for the time being occupying the position of Medical Officer of Health for the Territory;

"Occupier" means the person having the charge, management, or control of premises, and in the case of a house which is let out in separate tenements, or in the case of a lodging-house which is let to lodgers, the person receiving the rent payable by the tenants or lodgers, either on his own account or as the agent of another person, and also includes any person in occupation of the surface of any land of the Crown, notwithstanding any want or defect of title to occupy the same.

3. (1) There shall be a Director-General of Public Health, who shall advise the Administrator in all matters arising under these regulations.

(2) There shall be a Medical Officer of Health, who shall, under the Administrator, be subject to the direction of the Director-General of Public Health.

(3) There shall be a Health Inspector, who shall be subject to the direction of the Medical Officer of Health.

4. (1) Whenever, in any house, any person is found to be suffering from any infectious disease, or from any sickness the symptoms of which raise a reasonable suspicion that it may be an infectious disease, the following provisions shall apply:—

- (a) Upon the day on which the occupier of the house becomes aware of the nature of the disease of which the patient is sick or suspected to be sick, he shall give notice thereof to the Medical Officer of Health;
- (b) The Medical Practitioner who attends the patient shall, upon the day on which he becomes aware of the nature of the disease or suspected disease, give notice thereof to the occupier, and also to the Medical Officer of Health, and on the death of any such patient forthwith, notify the Medical Officer of Health of such death.

(2) The notification of the existence of infectious disease required by sub-regulation (1) of this regulation to be given by the medical practitioner to the Medical Officer of Health shall be in writing, in accordance with Form A in the Schedule hereto.

(3) A medical practitioner shall not be liable to any proceedings for any misstatement made in good faith in a notification of any infectious disease, if he promptly notifies to the Medical Officer of Health any change in his diagnosis.

(4) The Minister shall pay, or cause to be paid, to each medical practitioner a fee of two shillings and sixpence for every case notified by him in accordance with this section.

(5) When the head teacher of any school becomes aware that any of the children attending the school, or any member of the staff of the school, is suffering from an infectious disease, he shall at once notify the Medical Officer of Health.

5. The Medical Officer of Health, or other person authorized by the Minister, may at all reasonable times enter any house and examine any inmate of such house, or any person found therein at the time of such visit, for the purpose of ascertaining whether such inmate or person is suffering from an infectious disease.

6. Any person found to be suffering from an infectious disease shall comply with any orders given, in writing, by the Medical Officer of Health.

7. The parent or guardian of any child found to be suffering from an infectious disease shall comply with any orders given in writing, by the Medical Officer of Health.

8. After it has been found that a person in any house is suffering from an infectious disease, the inmate of the

house, or any person who enters or quits the house, shall be considered as a contact, and shall be liable to such restrictions or orders as the Medical Officer of Health directs, and may be removed to an isolated place, and, if so removed, shall remain in the isolated place for such period as the Medical Officer of Health directs.

9. (1) The owner, occupier, or any person having the care and management or ordering of any house, shall comply with all orders or directions notified, in writing, by the Medical Officer of Health regarding the cleansing, purifying, ventilating, and disinfecting of the house, and of the drainage and sanitary appliances belonging thereon.

(2) If such owner, occupier, or other person fails to comply with the said orders or directions within the time limited by the notice, the Administrator may authorize the work to be done, and recover the expense of so doing from the party in default, without prejudice to any further or other liability of the owner, occupier, or other person under these regulations.

10. A person who is affected with any infectious disease shall not—

- (a) wilfully expose himself in any house or place to which the public have resort, or in any public vehicle, without proper precautions against spreading the infection; or
- (b) enter any public vehicle without previously notifying to the owner, conductor, or driver thereof that he is so affected.

11. A person who is in charge of any person affected with any infectious disease shall not so expose such affected person, nor allow him to do anything in breach of the preceding regulation.

12. A person shall not, without the permission, in writing, of the Medical Officer of Health, send to school a child who has within the previous two months been suffering from an infectious disease or been resident in a house where a case of infectious disease has during that time occurred.

13. Any person who ceases to occupy a house, any part of which has within the previous six weeks been used, during his occupancy, by a person suffering from an infectious disease, shall—

- (a) have such house or part disinfected thoroughly to the satisfaction of the Medical Officer of Health; and
- (b) give notice to the owner or incoming occupier of the house of the previous existence of the disease.

14. A person shall not let for hire any house or part of a house which has, to his knowledge, been occupied by a person suffering from any infectious disease without informing the person proposing to hire the house of that fact, unless the Medical Officer of Health shall previously certify, in writing, that, in his opinion, there is no longer any risk of infection from such house or part.

15. The owner of any bedding, clothing, or other articles which have been exposed to infection shall, when required so to do by notice, in writing, from the Medical Officer of Health, deliver up such articles to the person named in the notice for the purpose of destruction or disinfection.

16. The person in charge of any vehicle, train, or tram in which a person known or believed by him to be suffering from an infectious disease has been conveyed, shall, before its further use, disinfect the vehicle, train, or tram to the satisfaction of the Medical Officer of Health.

17. The person in charge of the body of a person who has died of an infectious disease shall comply with the orders of the Medical Officer of Health regarding the treatment and disposal of the body.

18. Any medical practitioner or other person who fails to comply with, or is guilty of a breach of any of these regulations, shall be liable to a penalty not exceeding twenty pounds.

#### THE SCHEDULE.

#### COMMONWEALTH OF AUSTRALIA.

Form A.

#### "Public Health Ordinance, 1912."

#### Infectious Disease Regulations, 1914.

I hereby certify that the person whose name and address appears hereunder is suffering from.....

Full name of patient .....  
 Address of patient .....  
 Occupation .....  
 Age .....  
 Sex .....  
 Date of commencement of illness .....  
 Source of milk supply .....  
 Attends school at .....  
 Signature.....

Medical Practitioner.

Date.....  
 To the Medical Officer of Health.

## Vital Statistics.

### NEW SOUTH WALES.

The report of the Government Statistician of New South Wales for the metropolis of Sydney and for the Newcastle district for the month of July, 1914, has been published in the "Government Gazette."

The returns for the metropolis reveal a birth-rate corresponding to an annual birth-rate per 1,000 of population of 31.99, as compared with 27.89 for the average of July for the previous five years. The death-rate corresponded to an annual death-rate of 12.24, as compared with 11.83 for the corresponding period for the previous five years. The illegitimate birth-rate worked out at 2.46, which is approximately the same as the average for July during the last five years. There has been a slight decline in the number of deaths under one year of age, the frequency working out at 62 per 1,000 births. In regard to the causes of death, 100 out of a total of 740 were due to pulmonary diseases, 94 to heart diseases, and 69 to developmental diseases of infants, 52 to phthisis, 50 to cancer, 47 to Bright's disease, 46 to apoplexy, etc., 37 to senility, 25 to accident, 23 to epidemic diseases, and 22 to diarrhoea and enteritis. As compared with the average number in July during the previous five years, apoplexy and phthisis were considerably more frequent, and epidemic diseases considerably less frequent cause of death. Eleven deaths were due to diphtheria, 5 to typhoid fever, 3 to scarlet fever and 1 each to pertussis and influenza. During the month, 32 cases of typhoid fever, 200 of diphtheria, 205 of scarlet fever, 56 small-pox, and 2 of anterior poliomyelitis were notified. The mean shade temperature for the month was 52.9°, and the highest record 63.5°. The greatest amount of humidity recorded was 100 per cent. and the least 37 per cent. The total rainfall was 8.76, as compared with 5.91, which was the average for July during the previous ten years. In regard to the death-rate, 269 deaths occurred in hospitals.

The returns for the Newcastle district include the following figures: The birth-rate per 1,000 of population was 3.23, which is equivalent to an annual rate of 3.76. Six of the 186 infants born were illegitimate. The death-rate for the month worked out at 1.18 per 1,000 of population, which is equivalent to an annual death-rate of 14.16. Twelve deaths occurred in public institutions. The chief causes of death were: Heart disease (14 out of a total of 68), developmental diseases of infants (10), bronchitis (4), pneumonia (3), and senility (3). Five cases of typhoid fever, 15 of diphtheria and 40 of scarlet fever were notified during the month. One of the cases of diphtheria proved fatal. The death-rate of infants under one year of age was 70 per 1,000 births.

## Hospitals.

### FREMANTLE HOSPITAL.

Mr. W. Mills, the Chairman of the Fremantle Hospital Board, has resigned his office on account of the unsatisfactory financial condition of the institution. It appears that the present Government in Western Australia subsidises the hospital to the extent of £4500 a year. A few years ago the Government subsidy was £6000, which the last Government reduced to £3500 and then raised to the present amount. The total income from all sources had proved insufficient for the needs of the hospital, and a short time ago the Government, although aware of the unsatisfactory position, deducted £111 from the subsidy for the purpose of repaying itself for milk supplied. Mr. Mills was certainly justified in taking the course indicated of retiring from the chief post on the board as a protest to the niggardly treatment adopted by the Government.

### QUEENSLAND HOSPITALS FOR THE INSANE.

The Inspector of Hospitals for the Insane in Queensland has presented his annual report to the Legislative Assembly. During the year 1913-14 there were 2775 patients treated at the hospitals at Goodna, Toowoomba and Ipswich. This figure represents 3.58 per 1000 of the entire population. In New South Wales, the insane number 3.64 per 1000 of the population, and in Victoria 4.06. Insanity is relatively infrequent among the female population of Queensland.

The Inspector attributes this to the climatic conditions of the southern and central portions of the State. Among the 384 fresh cases admitted at Goodna, alcohol was held to be responsible in 67, heredity in 53, old age in 56, and venereal diseases in 22. At Toowoomba, 13 of the 99 patients were suffering from alcoholic forms of insanity, and in 11 cases there was an hereditary aint. Twelve of the patients had suffered from previous attacks. The majority of the patients admitted during the year at the asylum at Ipswich had been transferred from Goodna or Toowoomba.

### STATE CHILDREN IN QUEENSLAND.

The Director of the State Children Department of the Government of Queensland has presented his annual report for the year 1913. The number of children in the various institutions on December 31, 1913, was 952, which is 20 more than the number of inmates on December 31, 1912. Seven hundred and thirty-six children were admitted during the year, and 715 left the institutions. At the Meteor Park Orphanage, 37.3 per cent. of the children were treated medically for various illnesses. These include 139 cases of affections of the respiratory system, 114 affections of the digestive system, and 70 of the nervous system. The lowest morbidity was met with at St. Vincent's Orphanage, Nudgee. In the southern district, 3231 children were being taken care of on December 31, in the central district 803, and in the northern district 331. Besides those in the institutions, 13 were in hospitals, 626 were boarded out with foster mothers, 2245 were boarded out with female relatives, 477 were hired out, 38 were adopted and 104 were released on probation. The State undertook the responsibility of the care of 1218 children who had not been placed under its protection before.

It is stated that 122 of the children admitted were illegitimate. This figure is probably too low. A great majority of the infants received were born out of wedlock. During the year the total number of children dealt with was 5564. The death-rate among the little ones was 0.86 per cent. Many of the children were in a bad state of health at the time of reception, having obviously been neglected, either wantonly or through ignorance. The majority of the children improved very rapidly in health in their new environments, and the expenditure entailed was fully justified. The Department spent £62,437 during the year, which represents an increase of over £8500. The increase was largely due to an increase in the staff and to a more liberal allowance for maintenance.

The Director expressed his satisfaction in being able to report that there were 2455 children living with their own relatives at the end of the year. The relatives were receiving pecuniary assistance from the State. State children, after attaining the age of 13, with the exception of those boarded out with relatives and those in industrial schools and the reformatory, were sent out to service. The report contains a large amount of other information, which is both interesting and important from the point of view of national hygiene.

### MELBOURNE HOSPITAL.

Certain attacks on the Melbourne Hospital have been published in the "Age" from time to time during the last few weeks. The most prominent of these deals with the case of a man named Albert McPherson. As the occurrence is the subject of a Governmental inquiry, which was undertaken by Mr. H. C. Martin, Inspector of Charities, on August 6, and as his report has not yet been published, we refrain from commenting on the matter. From the evidence given before the Inspector of Charities, it appears that the patient was first seen at the hospital by the casualty house surgeon on July 13, when he complained of weakness and numbness of the right arm. The condition was diagnosed as hysteria, and the patient was referred to the out-patient physician for treatment. McPherson attended the out-patient clinic on July 14th, was carefully examined by the physician in charge, who demonstrated to his students the absence of any sign of organic nervous lesions. On the 17th he again attended the out-patient clinic, was re-examined and the diagnosis of hysteria maintained. On the 21st he walked up to the hospital, was attended by another physician in the out-patient clinic, and



medicine was prescribed. Before fetching his medicine, he went into the street and smoked, and returned for the medicine later. On coming out of the hospital for the second time he fell over, and for about half an hour made attempts to stand. Two hospital attendants went to his assistance, and one of them states that McPherson walked 20 yards inside the institution with slight assistance. The casualty house surgeon examined him, and made him stand. He was unable to find any signs of an organic nervous lesion. The man was kept on a couch for two hours in the observation room, which was well warmed, and he himself has stated that he did not feel cold. The man was then referred to the Registrar on duty, who examined him in the Superintendent's room, and being satisfied himself that there were no signs of organic lesion, instructed the house surgeon to discharge him. He was, therefore, taken in a chair to the casualty room, which was also well warmed. He remained in the chair for three hours, at the end of which time he was again examined. The registrar was again communicated with, and no change in the man's condition was detected. The lodging-house at which the man stayed was telephoned to for the purpose of getting some one to assist him home. As no friend could be found, a telephone message was sent to the Russell Street Police Station, requesting the police to take the man to his lodging-house. A cab was sent, and the man was taken to the police station, where the senior constable looked at the man, and sent him back to the hospital, with the request that he should be admitted. On his arrival at the hospital he was again examined, and signs of facial paralysis and deviation of the tongue were discovered. This was the first occasion on which any signs of an organic lesion were detected. The man was admitted.

#### GENERAL HOSPITAL, BRISBANE.

The new operating theatre, which has been erected at a cost of £4810 9s. 11d., in the Brisbane General Hospital, has now been completed, and the new buildings, which are being erected out of a special bequest from the Walter and Eliza Hall Trust, are approaching completion. The operating theatre has been extremely well designed, and constructed, and will compare favourably with theatres of other institutions.

### University Intelligence.

#### UNIVERSITY OF SYDNEY.

The following results have been posted at the University:—

Pharmacy Students (Materia Medica).—Pass (alphabetical): W. J. Nelson, Kathleen M. Legg, Dorothy G. Perry, E. G. Wheen.

Fourth Degree Examination (Materia Medica).—Pass: Elaine M. Little.

Fifth Degree Examination (Medical Jurisprudence and Public Health).—Pass (alphabetical): C. G. Adams, C. G. Allen, J. T. Anderson, A. E. Aspinall, E. P. Barbour, E. P. Blahski, K. S. M. Brown, D. J. Browne, K. Byrne, B. M. Carruthers, C. C. Coghlan, F. C. Curtis-Elliott, E. P. Dark, A. M. Davidson, A. W. Dean, J. L. Digby, C. O. G. Donovan, W. A. Edwards, Harriette M. Exton, C. Farran-Ridge, B.Sc., W. Fenwick, N. H. Franki, K. B. Gaden, S. S. Gardiner, N. M. Gregg, C. M. Harris, W. S. Hawthorne, G. M. Hay, R. H. Haynes, C. R. R. Huxtable, J. I. M. Jamieson, E. Jeffrey, J. T. Jones, Elaine M. Little, G. B. Lowe, J. R. McCulloch, R. Martin, R. B. Minnett, I. Morgan, A. W. G. Murray, H. M. North, R. E. Nowland, L. J. J. Nye, S. V. O'Regan, Olive K. O'Reilly, N. E. Packer, W. R. Page, P. S. Parkinson, T. K. Potts, R. K. Rae, S. A. Raiton, S. W. G. Ratcliff, A. W. Raymond, R. W. Richards, H. A. Ridler, Amy C. Rivett, A. T. Roberts, E. A. Sanbrook, R. J. Silberthau, G. W. Sinclair, B.A., A. L. Stafford, J. Stewart, C. Tanko, A. C. Thomas, R. B. Trindall, Dorothy M. Voss, B. G. Wade, H. A. C. Wall, R. C. Winn, N. Zions.

Final Degree Deferred Examination.—Pass: alpha-

betical): S. J. Blumer, G. W. Bray, C. A. F. Clark, T. A. Daly, T. R. E. Davis, R. E. Elworthy, K. H. Grieve, A. C. A. Jekyll, Maude S. Jones, R. A. Lovejoy, W. J. Macdonald, F. M'Intyre, A. E. Machin, J. A. Murphy, R. J. Nixon, S. M. O'Riordan, L. M. Pigott, R. L. Poulton, F. S. Thomas, J. Young-Wai.

### Naval and Military News.

Major N. R. Howse, V.C., has been appointed to the rank of Lieut.-Col., and Drs. J. E. Donaldson, F. A. Maguire and B. C. A. Pockley to the rank of Captain. The above-named officers have joined the contingent of 1000 men of the Australian Naval and Military Expeditionary Force, which left Sydney under sealed orders on August 19, 1914. Lieut.-Col. Howse is in command of the Medical Corps.

The following appointments and promotions have been announced:—

#### 1st Military District.

Dr. J. S. Smyth to be Captain (provisionally).

#### 2nd Military District.

Captain E. L. D. Parry has been transferred to the A.A.M.C. Reserve.

The provisional appointments of Captains C. W. Thompson, J. H. V. Scott and R. V. McDonnell are withdrawn.

#### 3rd Military District.

Lieutenant J. H. Anderson and Lieutenant W. A. Spring have been appointed Captains (provisionally).

Harley Grover and Alan Frankland Jolley to be Captains (provisionally), supernumerary to establishment, without pay, pending absorption.

Gordon Clunes Mackay Mathison has been appointed Captain (provisionally), supernumerary to establishment, without pay, pending absorption.

The provisional appointments of Captains R. W. Chambers, J. J. Nicholas and F. C. Burke-Gaffney are confirmed.

Captain J. J. Nicholas has been placed on the supernumerary establishment, without pay, pending absorption.

Captain F. E. Hutchinson is transferred to the A.A.M.C. Reserve.

#### 4th Military District.

Harry Carew Nott and Dean Dawson have been appointed Captains (provisionally).

Captain and Honorary Major T. C. Bennett is transferred to the A.A.M.C. Reserve.

Australian Army Medical Corps Reserve—

Oliver Leitch has been appointed honorary Captain.

Honorary Captain G. M. Hains has been transferred to the A.A.M.C., and to be Captain (provisionally), supernumerary to establishment, without pay, pending absorption.

Honorary Captain J. H. G. Drummond has retired, having reached prescribed age for retirement.

#### 5th Military District.

The provisional appointment of Captain R. C. E. Atkinson has been confirmed.

#### 6th Military District.

Charles Norman Atkins has been appointed Captain (provisionally).

According to the "Sun" newspaper of August 19th, the following appointments have been made to the medical staff of Lady Dudley's Australian Hospital:—

Dr. Douglas Shields, Dr. Hamilton Russell, Colonel Horne (Melbourne), Captain Wallace, Colonel Eames, Major Dick, Dr. Studdy, Dr. Thring and Dr. M'Donnell (New South Wales), and Dr. Reynell (South Australia). The organizing work will be carried out at the Ranelagh polo grounds. The hospital, when completed, will have provision for 200 patients.

Captain D. M. McWhae, of Maylands, Western Australia, and Captain E. T. Brennan, of Fremantle, have received appointments with the Western Australian Expeditionary Force, which is to leave Australia shortly. Dr. McWhae is the officer commanding the subdivision (Bearers' section)

of the Army Medical Corps, and Dr. Brennan is Medical Officer to the force.

During Dr. McWhae's absence, Dr. Thompson, late of the Fremantle Hospital, will act as his *locum tenens*.

#### 1st MILITARY DISTRICT.

We understand that Captain Ross has been placed in charge of the 1st Australian Defence Medical Corps, which left Townsville about a fortnight ago with the contingent of the expeditionary force. Captains Kay and Fernley also accompanied the corps. Captains Kelly and Wassell have been appointed to the Defence Force at Thursday Island and Captain Huxtable in military command.

Dr. A. J. Trinca, of Hawthorn, Victoria, has been appointed naval surgeon in charge of the hospital ship "Gran-tala," which is at present in Sydney Harbour. Dr. Trinca has been practising in Collins-street, Melbourne, and Hawthorn for the past six years, and holds the positions of honorary pathologist at the Alfred Hospital, and Anaesthetist at the Melbourne Hospital. These offices will be kept open during his absence. He will be required to undertake the arrangement and equipment of the hospital ship.

#### 4th MILITARY DISTRICT.

Captain Cavenagh-Mainwaring, the well-known Adelaide surgeon, has been selected to accompany the Light Horse Regiment, and the recommendation of the Principal Medical Officer (Dr. Ramsay Smith) has been forwarded to headquarters in Melbourne.

#### 3rd MILITARY DISTRICT.

The following have been accepted for service with the Expeditionary Force leaving Victoria, in the positions shown:—

##### No. 1 L.H. Field Ambulance ("B" Section).

Lt.-Col. R. T. Sutherland—to command L.H.F.A.

Captain R. Fowler.

Captain J. J. Nicholas.

##### No. 2 Field Ambulance—

Lt.-Col. A. H. Sturdee, V.D.—to command Field Ambulance.

Major W. W. Hearne.

Captain C. G. Shaw.

Captain Victor Hurley.

Captain B. Quick.

Captain R. W. Chambers.

Captain H. J. Williams.

Dr. A. V. Honman.

Dr. G. C. Mathison.

Dr. C. Morlet (P.S.), Quartermaster.

##### Field Artillery Brigade—

Dr. R. S. Whitford.

##### Light Horse Brigade—

Major C. C. Macknight.

##### Infantry—

Captain J. J. Black, 5th Battalion.

Dr. E. F. Lind, 6th Battalion.

Dr. E. W. Gutteridge, 7th Battalion.

Dr. H. E. Jackson, 8th Battalion.

Dr. A. F. Jolley.

Dr. H. B. Lewers.

Colonel C. S. Ryan, P.M.O., 3rd Military District, will be in charge of the Medical Corps.

## Special Correspondence.

(From our London Correspondent.)

LONDON.

#### New School of Physiology at Cambridge.

On June 9th, Prince Arthur of Connaught opened the new School of Physiology at Cambridge, which the University mostly owes to the munificence of the Drapers' Company.

His Royal Highness was met at the railway station by the Vice-Chancellor, who conducted him to the Senate House. Here a procession was formed beneath the colonnade of the University Library. First came the Esquire Bedells, followed by the Chancellor with his black and gold gown, held

up by the Marquess of Hartington, and then Prince Arthur of Connaught and the other recipients of Honorary Degrees, namely, Viscount Esher, Lord Moulton, Colonel Benson (the Master of the Drapers' Company), Professor Sir William Osler, Professor Sir David Ferrier, Professor Sir Edward Schafer, and Professor Starling. Behind these walked the Vice-Chancellor, accompanied by the Registry and the Public Orator, the Heads of Colleges, Doctors in the several Faculties, the Librarian, Professors, members of the Council of the Senate, and the Proctors.

In the Senate House, Lord Rayleigh, the Chancellor of the University, occupied the chair. The key of the new School of Physiology was presented to the Chancellor by the Master of the Drapers' Company, and Prince Arthur, who sat on Lord Rayleigh's right, was requested to declare the school open.

In the course of an excellent speech, Prince Arthur expressed his pleasure at being present, although he confessed with regret that he himself had never received the benefit of a University education. His Royal Highness proceeded to state that it was a special source of pride and satisfaction to him to take part in that day's ceremonial because, he said, "I am in a small way following the footsteps of his late Majesty King Edward VII., who came to Cambridge in 1904, for the purpose of visiting various schools of learning and science, and I take this opportunity of saying that I am indeed deeply sensible of the privilege that you should have invited me to inaugurate a building which cannot fail to be of untold benefit in the province of scientific research. Many waters have flowed past the backs of your beautiful old colleges since Richard Bentley, the Master of Trinity, converted what is now the Bursary of Trinity College into 'an elegant Chymical Laboratory,' for Francis Vigani, the first University Professor of Chemistry, at the commencement of the eighteenth century. Though much good work was doubtless accomplished in those early days, it was not till Sir Michael Foster was elected into the Chair of Physiology, in 1883, that students in this department of science began to grow in such large numbers that more ample accommodation was soon required. In spite of additional buildings being provided in 1886 and 1891, twelve years later the Laboratory as then constituted was quite inadequate for the needs of the ever-growing number of students, but it was not till 1910 that the Worshipful Company of Drapers came to the rescue by offering to erect a new Physiological Laboratory upon a site to be provided by the University, and to contribute to its equipment."

"There may perhaps be," he continued, "a royal road to an honorary degree, but there is certainly no such broad and easy way to acquire a scientific mind—by this I mean a habit of accuracy and exactness in matters of fact, which the study of science engenders—and in a time like the present, when it is almost the normal condition of most persons to discuss questions which they do not understand—there is a peculiar utility in a process which absolutely compels exactness of thought, and which makes half knowledge an impossible condition. Of the gains to be derived from Natural Science I do not venture to speak, but I do not think that I am very wide of the mark when I say that the happiest lives are those which have been devoted to science. Every step is interesting, and the success of those who do succeed is lasting. No man who has taken up scientific pursuit as the work of his life regrets the choice, while men who have done important work in other lines of life feel like Renan, who, at the height of his literary eminence, has told us in his autobiography that he has often regretted that science, rather than historical research, had not been the object of his early studies."

#### Relationship of Philosophy to Sociology.

Professor Muirhead delivered a lecture, at the London School of Economics, early in May, dealing with "Social Progress in the Light of Recent Research."

He remarked, at the outset, that the contrast between the progress of physical science and the backwardness of social science was so conspicuous that it could not be ignored. Physical science seemed to have complete control of the outside world, as was emphasised in a railway journey, in

which there was every evidence of full physical control, whereas on arrival at the railway terminus one saw its environs strewn with slums in a state of chaos. One reason for this was that it was only recently that a disinterested study of social facts had been undertaken. The School of Economics stood for dealing with social facts in the same disinterested way that physical facts were dealt with in physical science.

Another reason for the discrepancy was that in physical science an exact adaptation to human purposes was obtained. In human life there was not the same agreement. In it one was dealing with values and the standard of values, a matter that involved both a philosophical and a practical question. In order to link up philosophy with the experiences of life, he proposed to try to bring together recent research in philosophy and the facts of social life. There was a difference among people's views as to what forces lay behind progress. The idea of progress was almost a religion, but to what were they trusting as the force behind it? To the principle of natural selection or to the power of the human will? It was at once a philosophical and a practical question upon what force people were relying. Progress must mean a change to some result of human value. But that raised the question what was value? One came to regard values as personality or individuality, but that again only raised the question as to the nature of individuality. Unrest, he believed, was largely due to the want of opportunity for self-expression. The psychologists had tried to find individuality by suggesting that a man might retire into himself and sever himself from relations with the outside. That view was a fallacy, for when one retired into oneself one found nothing. Individuality consisted in getting into touch with the outside world and harmonising with it.

### Correspondence.

#### THE MEDICAL CONGRESS AND THE B.M.A.

Sir,—One can but deprecate the manner in which some correspondents have recently dealt with the question of an Australasian Medical Congress, or a British Medical Association Congress for Australia. Individuals do not live long enough in this world to give justification for imputing improper motives or for personal attack. The subject matter is a fair one for discussion, and it can be viewed from many points with temperance.

At the last meeting of the Congress in Auckland I suggested that those who desired the change should place a notice on the business paper for the next Congress, to be held in Brisbane. In the meantime, every member would have leisure to think upon what was proposed. It would come up for discussion in a regular manner; all could attend with arguments ready pro or con; a reasonable and considered vote might be obtained to which none could object, and the various side issues would be correctly interwoven with the main objective. New Zealanders were in a great majority on the Saturday morning in Auckland. The prime motive that swayed them was a feeling of some slight inconvenience that the members of Branches of the B.M.A. in the Dominion suffered from having once in some 19 years ceased to meet at the same time as the A.M.C. Congress. One might be excused for deeming this not to be a sufficiently strong reason for the change.

In speaking for the allotted time my remarks were confined to the financial aspect of the proposal. It is one which is still worthy of consideration. Is the British Medical Association in Queensland financially strong enough to manage the next Congress on the same scale as its predecessors? The Governments of the various States have been the main support of each meeting. The cost of printing the transactions for the Sydney Congress was more than £1500. Other items brought the total to State assistance to higher figures. The strongest statement in asking for this aid was:—Every qualified medical man of good repute in Australasia has the right to become a member of Congress, on payment of the necessary subscription. Will the managing committee in Brisbane, if it is to be a British Medical Congress, have such weighty

statement to place before the Government? It may be that when they ask such favours a dispute will be in existence with the friendly societies, and the representatives of these might at once make protest to the Ministry. What would be the result? No assistance.

The Council of the British Medical Association in New South Wales have, individually and collectively, given much time and labour to the interests of the profession; there are those in other States who are following the good example, and during the coming years there will be much difficult negotiating in front of them. Is it in the interests of the profession as a whole that the financing and managing of a Congress should be thrown upon them?

The whole matter was left in such an incomplete state in Auckland that the Brisbane authorities may well be dismayed at the task they undertake, unless, of course, they are prepared to carry the Congress through on a very much restricted scale in every direction.—I am, etc.,

Sydney, Aug. 17, 1914.

JOHN B. NASH.

Sir,—Dr. Fitzpatrick signs his name this time to a great tale of woe and just grievances, no doubt. It is better. He says he is not ashamed of what he writes; then I am sorry for him.

The third paragraph of his letter commences by these words: "But for the intruder, who, without scruple or conscience, cuts in against the man fighting for principle and loyal to his fellows, there should be no toleration." That's all right. But why not turn his guns to his enemies instead of his friends? This has nothing to do with the question of admitting good men to the Medical Congress, though not members of the B.M.A. If the evil he complains of exists, the remedy he proposes for it is not a good one. If it has any effect at all, it will make matters worse. If the delinquents cannot be stopped, why not try to bring them into the company of the Association, where they would receive good advice and soon be better at the contact of men of higher aim and disposition?

The B.M.A. can refuse any physician to become a member for cause real or apparent, or for no cause at all; any society has that right. But none of its members has the right to treat with contempt or anathematize those who accidentally or otherwise are out of its ranks, because one here and there may be foolish enough to practice at cut rate. Contract practice is an abomination at best; with union and better understanding it should disappear. It will not so long as hatred and division will be fomented by a few in the profession; so long as mistakes will be met with more inexcusable mistakes. Retaliation will never better a wrong. The "similia similibus curantur" motto is fallacious here.

I maintain that, though desirable, it is not necessary to belong to the Association to be a regular practitioner of good standing. I know a number of them. Often the most scrupulous observer of its rules and regulations are met outside of it. It may be that "it suits them better to behave" Dr. Fitzpatrick would say to their credit; but I know they would do the same thing for the general good if it was against their personal interest. If he knows offenders outside the B.M.A., it is not an excuse for insulting that part of the profession in a bunch. He does not infer that every man outside the B.M.A. is a pariah, but persists in treating them all as such—a negligible quantity. He is probably a victim of some injustice, and thinks he has his revenge in showing himself as unjust and blind as a member of some mutual admiration club would be. There is no aristocracy other than personal merit in the medical profession, and I do not think the Association would create an imaginary one.

As for my imagination and indignation being mixed up, Dr. Fitzpatrick can think so if it does him good; but I generally know what I say, and I have received enough approbation already to make me think that I am not entirely wrong.

The medical profession has many enemies to fight. I think it would be better to unite all our efforts against them rather than spend our ammunition skirmishing between ourselves.

Yours, etc.,

E. SIROIS.

Marburg, Queensland,  
August 19th, 1914.



## Medical News.

The Central Executive Committee in Perth of St. John's Ambulance Association has resolved to add the names of Drs. Robert F. Cameron, Stanley J. Cantor, Arthur H. Gibson, Charles N. Finn, Arthur R. Haines, Bernard G. Quinlan, Thomas Sheehy, Valentine O. Stacy, John Walker and Inman Way to the list of honorary life-members, in recognition of their services as lecturers and examiners. These offices are performed without any remuneration.

Advertisements are being published inviting applications from candidates for the posts of Professor of Anatomy at the St. Andrew's University, and Professor of Geology at the Edinburgh University. The remuneration attached to the professorships in the Scottish University is as a rule not high, but we understand that these posts are sufficiently attractive from other points of view to entice members of our Australian University professorial boards to apply for the vacant chairs.

The publication of the new edition of the "British Pharmacopœia" has been postponed indefinitely on account of the outbreak of war. The work has been proceeding for a considerable time, and was practically complete in May last. In view of the changes introduced in the methods of preparation and manufacture, difficulty might be experienced at a time when the supply of drugs has become limited owing to the interruption of trade with certain foreign countries. The postponement will cause no inconvenience to physicians prescribing or to chemists dispensing, and will entail but little disadvantage by the delay in the introduction of the pharmaceutical reforms.

According to the will of Mr. Benjamin Barnes, late of Aston, Queen's Road, Melbourne, who died on 31st July, 1914, leaving an estate valued at £22,811 11s. 6d., being realty £7800 and personalty £15,011 11s. 6d., £300 has been left to the Geelong Hospital, and £100 to the Austin Hospital for Incurables. Provision is made in the will for certain funds to accumulate for 10 years or so until the capital sum reaches £20,000, when the income derived from this sum, after investment, will be divided among the following institutions:—District Nursing Society, Melbourne; Women's Hospital, Carlton; Children's Hospital, Carlton; Foundling Hospital, Richmond; Queen's Fund, Victorian Society for the Protection of Animals.

## Personal.

Dr. G. Basil Adams, at present tuberculosis medical officer of Durban, South Africa, has been selected to fill a similar position in the Wellington Hospital, New Zealand.

Dr. Charles Ryan has resigned from the position of honorary surgeon at the Children's Hospital, Melbourne. Dr. Ryan has been appointed medical officer to the expeditionary force.

Dr. William Duncan Kirkland, late of Royal Prince Alfred Hospital, Sydney, has commenced practice as assistant to his father, Dr. Hugh Kirkland, at Lithgow, New South Wales.

Dr. F. C. Wooster, of Mt. Chalmers, Queensland, has removed to General Hospital, Rockhampton.

Dr. Cecil R. A. Pye, of Windsor, New South Wales, has returned to Sydney from London by the "Morayshire."

During Dr. Thelander's absence in camp, his practice will be carried on by Dr. Sampson.

The late Dr. Eugene McMahon Glynn, of Riverton, South Australia, who died on June 9th last, left property in South Australia valued at £27,000, and personal estate in Victoria valued at £7,571, principally to relatives.

We learn that Dr. J. H. McGee, of Melbourne, who was in Paris at the outbreak of hostilities, is shortening his holiday tour and will return to Melbourne in October.

Dr. Rennie, who left Sydney on the 25th July, by the "Mongolia," for England and Switzerland, is returning from Colombo, and will arrive in Sydney about 3rd September.

Dr. E. Britten Jones, who was a Rhodes scholar in 1912, has passed the examination for the degree of B.A., having taken first-class and having obtained honours in Physiology.

Dr. D. D. Paton has commenced consulting practice as an ophthalmologist at Bank of Australasia Chambers, St. George's Terrace, Perth, Western Australia.

Dr. R. D. Campbell, of Hobart, Tasmania, has been elected a member of the Board of Examiners in Dental Surgery and Dentistry.

Dr. W. Edgeworth David has resigned from the position of senior resident medical officer of the South Sydney Hospital. He proposes travelling abroad for the purpose of studying medicine in other countries.

Dr. Bertram Crellin has resumed practice at "Rostrevor," Johnston and Park Street, Abbotsford, Victoria.

By an unfortunate error we announced on July 18th that Dr. J. J. Prendergast had been appointed Medical Officer of Health at Perth, Western Australia, in place of Dr. Paget Thurston. Dr. Prendergast has been appointed Medical Officer of Health at Mount Malcolm, Western Australia. This position was held by Dr. Paget Thurston until quite recently. Dr. Paget Thurston has started practice at Coolgardie.

Dr. T. Wilson has resumed practice at Ravensthorpe, Western Australia.

Dr. P. H. Nutting, of Wagin, Western Australia, is relieving the Resident Magistrate and District Medical Officer at Esperance, vice Dr. Innes Stephen.

Dr. Alva Benjamin, late of Rushcutters Bay, Sydney, has started practice at Casino, New South Wales.

Dr. Gunson, who has completed his medical studies in Edinburgh and London, has been appointed House Physician to Dr. James Mackenzie, F.R.C.S., at the London Hospital.

Dr. Harloe Henry Fleming, surgeon at the St. Arnaud Hospital, Victoria, died on August 15th. Dr. Fleming was 57 years of age. He was a graduate of Trinity College, Dublin. He arrived in Victoria in 1883, and practised at Stawell and Donald, residing at Arnaud.

Dr. C. J. Bond, F.R.C.S., and Professor Benjamin Moore, F.R.S., who have been attending the meetings of the British Association, left Sydney on August 25, for Adelaide, where they will join the R.M.S. Malwa for England. Mr. Bond is a prominent member of the British Medical Association. In 1905 he delivered the Address in Surgery at the Annual Meeting at Leicester. He is a member of the Medical Research Committee and of the Advisory Committee under the National Insurance Act, and has taken a prominent part in the furtherance of the research scheme now undergoing development in England. Professor Benjamin Moore has occupied the position of President of the Physiological Section of the British Association in the place of Dr. Charles J. Martin, F.R.S., Director of the Lister Institute, and late Professor of Physiology at the Melbourne University. Professor Moore is well known in medico-political circles, both in this country and in England, on account of the prominent part he has taken in the formation of the State Medical Service Association. He has been for many years an energetic member of the Representative Body of the British Medical Association.

## Proceedings of Australasian Medical Boards.

### NEW SOUTH WALES.

The following persons have been registered under the provisions of the "Medical Act of 1867" as duly qualified medical practitioners:—

Thomson, Ronald Mognie, M.B., M.S., 1914, Univ. Sydney.

Kaye, William Holland, L.R.C.P., Lond., 1904; M.R.C.S., Eng., 1914.

Whish, George Milroy, M.B., B.S., 1912, Univ. Glasg.

Featonby, Henry Newark, M.B., 1908; M.S., 1909, Univ. Melb.

Ebsworth, Richard Henry, M.B., B.S., 1908, Univ. Melb.

Donovan, Thomas Matthew, L.R.C.P., Edin., 1896;  
L.R.C.S., Edin., 1896; L.F.P.S., Glasg., 1896.  
Ott, Augustus, M.D., Ch.D., 1901, Univ. Pisa.

The following persons have registered additional degrees,  
viz.:—

Stafford, Stanley Roy, M.S., 1914, Univ. Sydney.  
Storey, John Colvin, F.R.C.S., Eng., 1914.  
Maclean, Lillian Alexia, M.S., 1914, Univ. Sydney.  
Norrie, George, M.S., 1911, Univ. Sydney.

## Diary for the Month.

- Aug. 20-26.—British Association Meeting, at Sydney.  
Aug. 22.—Conference Victorian Branch, B.M.A., with  
Friendly Societies' Association.  
Aug. 25.—New South Wales Branch, B.M.A.: Committee  
Meetings.  
Aug. 25.—Victorian Branch, B.M.A., Eye and Ear Section.  
Aug. 26.—Victorian Branch, B.M.A.: Council Meeting.  
Aug. 27.—South Australian Branch, B.M.A.: Ordinary Meet-  
ing.  
Aug. 28.—New South Wales Branch, B.M.A.: Ordinary  
Meeting.  
Aug. 28.—Melbourne Hospital Clinical Society.  
Aug. 28-31.—British Association Meeting, at Brisbane.  
Sept. 1.—New South Wales Branch B.M.A., Council Meet-  
ing.  
Sept. 11.—New South Wales Branch B.M.A., Clinical Even-  
ing.  
Sept. 11.—New South Wales Branch, B.M.A., Last Day for  
Nominations for Election to Federal Committee  
of B.M.A. in Australia.  
Sept. 15.—New South Wales Branch B.M.A., Council Meet-  
ing.  
Sept. 22.—Victorian Branch, B.M.A., Eye and Ear Section.  
Sept. 25.—New South Wales Branch B.M.A., Election of  
Members of Federal Committee of B.M.A. in  
Australia.  
Sept. 25.—New South Wales Branch B.M.A., Ordinary Meet-  
ing.  
Sept. 29.—New South Wales Branch B.M.A., Committee  
Meeting.  
Oct. 1.—New South Wales Branch, B.M.A., Annual Dinner.  
Oct. 1 and 2.—New South Branch, B.M.A., Annual Meet-  
ing of the Delegates of the Affiliated Local  
Associations of Members with the Council.  
Oct. 6.—New South Wales Branch, B.M.A., Council Meet-  
ing.  
Oct. 9.—New South Wales Branch, B.M.A., Clinical Even-  
ing.  
Oct. 20.—New South Wales Branch, B.M.A., Council Meet-  
ing.  
Oct. 27.—New South Wales Branch, B.M.A., Committee  
Meetings.  
Oct. 27.—Victorian Branch, B.M.A., Eye and Ear Section.  
Oct. 30.—New South Wales Branch, B.M.A., Ordinary  
Meeting.

## Medical Appointments.

Dr. J. Dawson has been appointed Government Medical  
Officer at Walgett, New South Wales, vice Dr. Cotton.

Dr. H. R. Beatty has been appointed Government Medical  
Officer at Braidwood, New South Wales, vice Dr. Quaife.

Dr. J. A. L. Wallace has been appointed Senior Assistant  
Medical Officer, Lunacy Department, New South Wales.

Dr. E. H. Morris, of Adelaide, has been appointed Inspec-  
tor-General of Hospitals under the Mental Defectives Act,  
1913.

Dr. J. Innes Stephen has been appointed Resident Magis-  
trate and District Medical Officer at Wyndham, Western  
Australia, vice Dr. J. I. Parer (resigned).

## Medical Appointments Vacant

FOR TRANSFER.—AN OLD ESTABLISHED PRACTICE  
on the North Coast. Income £900, including £260 from  
clubs on B.M.A. conditions. Price £350 cash. Apply  
to Bruck & Thomson, 15 Castlereagh Street, Sydney.

FOR TRANSFER.—A GOOD PRACTICE in a Railway  
Town, within 200 miles from Sydney. Income £1300.  
Price £450. Apply to Bruck & Thomson, 15 Castle-  
reagh Street, Sydney.

## Books Received.

EXAMINATION OF THE URINE AND OTHER CLINICAL SIDE-ROOM  
METHODS, by Andrew Fergus Hewat, M.B., Ch.B., M.R.C.P., Edin.  
Fifth Edition. Edinburgh: E. & S. Livingstone. Price 1/6 nett. 1914.

The following three books have been received from Messrs. Baillière,  
Tindall and Cox, Henrietta Street, London, whose Sydney representatives  
are Messrs. Bruck and Thomson:—

(1) AID TO FORENSIC MEDICINE AND TOXICOLOGY, by William  
Murray, M.D., F.R.C.P., revised by W. G. Aitchison Robertson, M.D.,  
F.R.C.P., 8th edition. Fcap octavo, of 153 pages. Price 2s. 6d.  
net.

(2) AIDS TO DENTAL ANATOMY AND PHYSIOLOGY, by Arthur S.  
Underwood, M.R.C.S., E., L.D.S., 3rd edition. Fcap octavo, of  
136 pages. Price 2s. 6d. net.

(3) INSANITY IN EVERYDAY PRACTICE, by E. G. Younger, M.D.  
Brux, 3rd edition. Crown octavo, of 130 pages. Price 3s. 6d. net.  
1914.

THE SOURCE, CHEMISTRY AND USE OF FOOD PRODUCTS, by E. H.  
S. Bailey, Ph.D., with 75 illustrations, and containing 517 pages.  
Price 5s. net. Philadelphia, P. Blakiston's Son and Co.

GAS POISONING IN MINING AND OTHER INDUSTRIES, by John  
Glaister, M.D., Glas., D.P.H. Camb., and David Dale Logan, M.D.,  
Glas., D.P.H. Demy octavo, of 471 pages. Price 10s. 6d. net. Edinburgh,  
E. and S. Livingstone. 1914.

## Warning Notices.

Medical Practitioners are requested not to apply for any  
appointment referred to below without having first com-  
municated with the Honorary Secretary for the Branch of  
this Association:—

Appointment.	Hon. Secty. of Branch.
Brisbane United Friendly Socie- ties' Institute, Lodges, etc., of the Longreach, Central Queensland, and Warwick Friendly Societies, Darling Downs, Queensland.	Queensland Branch, B.M.A. Building, Ade- laide Street, Brisbane.
Swan District Medical Officer.	Western Australian Branch B.M.A., 230 St. George's Terrace, Perth.
Contract Practice in Western Australia.	Western Australian Branch B.M.A., 230 St. George's Terrace, Perth.
Goulburn Friendly Societies' Association, at Goulburn, N.S.W. Lodges at Casino, N. S. Wales. The United Friendly Societies' Association of Orange, N.S.W. Friendly Societies' Lodges, Braidwood, New South Wales. The Friendly Societies' Associa- tion, Lithgow, N.S.W.	N. S. Wales Branch, B.M.A., 30-34 Elizabeth Street, Sydney.
The Friendly Societies' Medical Association Incorporated, Ade- laide.	S.A. Branch, B.M.A., 3 North Terrace, Ade- laide, S.A.

## EDITORIAL NOTICES.

Manuscripts forwarded to the office of this Journal cannot under any  
circumstances be returned.

Original articles forwarded for publication are understood to be offered  
to the "Medical Journal of Australia" alone, unless the contrary be stated.  
All communications should be addressed to "The Editor," "Medical  
Journal of Australia," B.M.A. Building, 30-34 Elizabeth Street, Sydney,  
New South Wales.